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Pacific Pulp & Paper Industry

JULY • 1943

DARE WE DO LESS?

Lives of great men oft remind us
We can make our lives sublime,
And departing, leave behind us
Footprints on the sands of Time.

That is what men did at Valley Forge, on The Marne, at Bataan, and are doing today in the Solomons, in Africa, in Russia and China. Dying that others may live . . . leaving imperishable footprints on the sands of Time.

Dare we at home do less—today—when so much is at stake? Tens of millions cry "No" and production becomes a flood.

Of those tens of millions, hundreds stationed at Black-Clawson, Shartle, Dilts . . . are working to the limits of their strength, producing a variety of products vital to the war effort . . . driving for Victory.

Yes, in this war even the man behind the man behind the gun can help to secure for posterity the Four Freedoms, plant his footprints firmly in the sands of Time.

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SHARTLE-DILTS

THE BLACK-CLAWSON CO., HAMILTON, OHIO

DIVISIONS: Shartle Bros., Middletown, Ohio; Dilts Machine Works, Fulton, N. Y.

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The Journal of the Pacific Coast Industry

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Some Facts About Those "E" Awards

(An Editorial)

OFFICIAL and unofficial commissions running around the country making investigations and studies, publicity campaigns by the War Department and OWI, "view with alarm" speeches and pronouncements by WPB and WMPC chieftans and congressmen and even the President—all this goes on because of the manpower crisis which is dangerously curtailing vital production in the woods industries.

They all sound the theme that wood is all-important, that logs must be gotten out of the woods to feed these industries, that the hand-to-mouth existence of lumber, plywood and vital pulp and paper industries is a dangerous menace to the success of our fighting forces.

If this is true, then can someone explain why alone among all the major industries in the war production front lines, the woods industries fly no Army-Navy "E" awards? Why this great void, when so much time, effort and money are devoted to these "E" ceremonies up and down and across the country? If the "E" is an incentive to war production, if it serves to boost the morale of the men and women in the industries thus honored, where is this morale more in need of being given a boost than in the woods industries?

Brush factories, textile plants and many other industries of all kinds and sizes are flying "E" pennants. Yet there is no such recognition for loggers, lumber and plywood and pulp and paper employes of the Pacific Coast, even those who are producing 100 per cent for government, army, navy, lend-lease and South American export.

The biggest producer of aircraft lumber in the world is a mill in Washington state. Pulp and paper mills are producing raw material for gunpowder, for tires and parachutes, for plastic airplane parts, and are making finished products for engineering work, for hospitals, for packaging, for vital communications.

Seeking the answer to its questions, this magazine made inquiries to the WPB and the War and Navy Departments. Some most interesting bits of news were brought to light by this correspondence.

A highly placed official made the surprising remark that awards had already been made to the timber industries. Asked for more details, he qualified this statement in a second letter, as follows:

> "THE ARMY BOARD DID GRANT SEVERAL OF THESE AWARDS, BUT UNKNOWN TO ME THE AWARDS WERE HELD UP AND THE PRESENTATIONS WERE NEVER MADE. . . . AS THE ARMY AND THE NAVY HAVE VERY LITTLE CONTACT WITH THE LUMBER INDUSTRY, THE TWO BOARDS DECIDED THAT THESE NOMINATIONS SHOULD BE MADE BY THE WAR PRODUCTION BOARD, BUT SO FAR THAT BOARD HAS NOT SEEN FIT TO SUBMIT ANY NOMINATIONS FOR THE 'E' AWARD."

Is This a Promise?

Asking for more enlightenment on these points, this magazine then made inquiries to the WPB. This is the reply it received, dated June 25:

> "IT IS TRUE THAT THE WAR PRODUCTION BOARD NOMINATES PLANTS FOR THE ARMY-NAVY 'E' PRODUCING RAW MATERIALS INCLUDING LUMBER AND LUMBER PRODUCTS; HOWEVER, FINAL ACTION ON ALL AWARDS IS TAKEN BY THE ARMY-NAVY BOARDS FOR PRODUCTION AWARDS. WITHOUT DIVULGING THE CONFIDENTIAL NATURE OF THE STEPS TAKEN, I CAN TELL YOU THAT A SERIES OF NOMINATIONS FOR THE ARMY-NAVY 'E' AWARD ARE UNDER ACTIVE CONSIDERATION.
>
> Very truly yours,
> E. W. BARD (Signed)
> Assistant to the Executive Secretary (WPB)."

In response to earlier inquiries, the WPB, Navy Department and War Department each sent this magazine copies of a leaflet entitled "How to Win the Army-Navy Production Award, issued jointly by the Under Secretary of War and the Under Secretary of the Navy."

Accompanying a letter from William F. Todd, Chief, Field Services Section, War Production Drive Headquarters, WPB, this paragraph in

the leaflet was underlined in ink:

> "All plants engaged in war production and construction work are eligible for the Army-Navy Production Award. There is equal opportunity for Government as well as private plants; those engaged partly on war work as well as those engaged fully on war work; subcontractors as well as prime contractors."

A different paragraph in the leaflet was checked off as important by Lt. Col. Ralph F. Gow (Ord. Dept.) Recorder for the Army Board for Production Awards. It read:

> "Quantity and quality of production in the light of available facilities are the factors which are given the greatest weight in selecting recipients for the award. Other factors to be considered include: (a) overcoming of production obstacles, (b) avoidance of stoppages, (c) maintenance of fair labor standards, (d) training of additional labor forces, (e) effective management, (f) record on accidents, health, sanitation, and plant protection, (g) utilization of subcontracting facilities, (h) cooperation between management and labor as it affects production, (i) conservation of critical and strategic materials, and (j) low absenteeism."

Commenting on this paragraph, Colonel Gow said:

> "Each of these factors must be outstanding before an award can be given. Because of these high requirements, only about two per cent of the companies eligible have received the award."

Industry Meets All Requirements

Without detracting from credit due any other industry, it must be conceded that the Pacific pulp and paper industry has more than met these "high requirements." It has had to overcome tremendous obstacles in obtaining materials and equipment of all kinds. Its wage standards are the highest for the industry anywhere in the world. It has an almost perfect ten-year record of ideal labor relations, marred only by one brief work stoppage. It was the first industry to adopt a program releasing men to other industries where they could use higher skills and to make a concerted campaign for increased employment of women. Its engineers have done remarkable work in salvaging and substituting materials. Its technicians have achieved notable successes in developing new war uses for paper. Its management has voluntarily sought out ways to aid the war effort, just one being the war work program of the machine shops, turning out vital parts for navy and cargo ships. Its accidents are negligible, its working conditions excellent and absenteeism is at a minimum because most pulp and paper mill employes are skilled or semi-skilled and interested in their jobs.

In his letter, Colonel Gow said that in regard to lumber and allied industries, "the War Production Board would be the nominating agency for any companies being considered for the award."

A third and still a different paragraph of the leaflet was noted as important in a letter to this magazine from Comndr. S. J. Singer, USNR, of the Incentive Division, Navy Department (2118 Massachusetts Ave. N.W., Washington, D.C.).

He wrote:

> "You will note from the enclosure (the leaflet) that 'Awards are confined to producers of "end products," component parts and base materials.' Most of the nominations made by Naval Inspectors and Supervisors and Army Procurement Officers are for Navy or Army contractors or sub-contractors. In addition, the War Production Board also makes some nominations for the Army-Navy 'E' covering concerns producing basic materials. Perhaps you will want to get further information from the War Production Board concerning the nature of the companies covered by their nominations."

With all this information, it still is not clear why awards to the woods industries have been "held up." Maybe they have just been delayed, as Mr. Bard's letter indicates.

The lumber industry and the pulp and paper industry are normally the No. 1 and No. 2 manufacturing industries of the Pacific Northwest. In wartime, they are giving wholehearted and intelligent support to the prosecution of the war and the supplying of some of the most critical war supplies.

THEY ARE NOT GOING TO LET UP ON THE JOB OR TAKE ANY TIME OUT FOR WEEPING IF THEY AREN'T GIVEN A PIECE OF BUNTING AS A REWARD. THE ONLY REWARD THEY WANT IS COMPLETE VICTORY, AS SOON AS POSSIBLE.

BUT IT IS NOT UNREASONABLE TO SUGGEST THAT A FEW "E" AWARDS IN THE WOODS INDUSTRIES MIGHT BOOST THE MORALE OF THE EMPLOYES. WITH A MANPOWER CRISIS THREATENING VITAL PRODUCTION IN THE WOODS INDUSTRIES OF THE WEST COAST, THE MORALE OF EMPLOYES SHOULD NOT BE TREATED LIGHTLY.

★ ★ ★

How About It, Mr. Jeffers?

● Because the man who made the statement is one of the most highly regarded authorities in Washington officialdom, the pulp and paper industry notes with interest a recent speech made by U. S. Rubber Director William Jeffers.

His personal interest in greater utilization of wood and its by-products is indicated in his remarks while visiting the new industrial alcohol plant of the Ontario Paper Company at Thorold, Ont., with other United States and Canadian officials:

"We should by now have learned our lesson never again to depend entirely for one of our most vital raw materials (rubber) upon faraway plantations on Malaya and elsewhere," he said. The Thorold plant, he went on, "presents an opportunity to put to substantial use the large quantity of by-products that flow from the wood pulp mills and lumbering operations of our two countries."

Output of the $500,000 Thorold plant, 600,000 gallons of industrial alcohol annually, is being chiefly exported to the United States for use in synthetic rubber production. The Thorold waste liquor, which is acid, is aerated to remove sulphur dioxide and neutralized with lime. It is then pumped into fermenters, yeast being added. The fermented liquid, containing about one per cent alcohol, is distilled, the end product being 190 proof alcohol.

Besides being used in making rubber, the alcohol is also used for explosives, as a solvent and as a raw material for making other war-useful products.

While Mr. Jeffers' remarks are highly regarded in the industry, there are many who are concerned as to the extent of profitable uses that may be made of waste liquor, particularly since many authorities are now suggesting that by 1944 the nation may face a glut in alcohol and synthetic rubber supplies.

Anacortes Mill To Reopen After Nine Months Shutdown

Shortage of pulp causes WPB to withdraw withholding order ✓ ✓ ✓ About 75 tons per day will be produced to supply Scott Paper Company, all of whose tissue and paper towel production is now rated essential to the war ✓ ✓ ✓ C. Wylie Smith supervises reopening plans.

THE Anacortes, Wash., division of the Coos Bay Pulp Corporation will begin production of unbleached sulphite pulp in late July or early August.

This mill will resume operations after a shutdown of approximately nine months, barring any unforeseen disruption of present plans.

The Anacortes mill was one of three Puget Sound pulp mills forced to cease operating last November 1 by a War Production Board log-withholding order. The others were the Tacoma mills of St. Regis Paper Company and Rayonier Incorporated. The latter became defunct with the sale of its entire equipment to Bagley and Sewall Company of Watertown, N. Y., last April. Although there is unquestioned urgent need for the kraft pulp produced at the St. Regis mill, the log shortage has so far prevented its reopening.

The Anacortes mill is resuming operation with WPB approval because of the shortage of sulphite pulp. Operating on a 24-hour day, six-day week, it will produce about 75 tons per day, or about 15 tons below normal capacity.

All of its pulp will be allocated for shipment as directed by the War Production Board. Normally the pulp goes to the Coos Bay Corporation's parent company, the Scott Paper Company of Chester, Pa. Scott produces tissues and towels from this pulp. All of Scott's products have been in heavy demand for the armed services since before Pearl Harbor but it was only a few weeks ago that the WPB finally officially designated its products as essential to the war effort.

The Coos Bay Pulp Corporation will resume its own logging operations in order to provide for the Anacortes mill.

To Employ 65 In Mill

● About 65 to 70 will be employed in the pulp mill. About a dozen or so jobs are to be filled by women. Many former employes will return. There will be additional employes engaged in the sawmill and chipping departments at the Morrison Mill.

VIEW OF THE ANACORTES, WASH., DIVISION of COOS BAY PULP CORPORATION, where preparations were being made to resume operations in late July or August on a six-day, 24-hour basis. This was one of the mills forced to close Nov. 1, 1942, by a WPB order denying logs to those mills. This plant will produce pulp for the parent company, Scott Paper Co., Chester, Pa., whose production of tissue and towel paper has been officially designated as essential to the war effort.

The Morrison Mill Company of Anacortes provides steam and cuts chips for the pulp mill.

Equipment of the mill includes two wet machines (Rogers and Sumner), two Fidalgo type driers (shredded pulp) and two digesters of 18 tons capacity each.

Since the shutdown last year, the machine shop of the mill has continued to operate, doing war work.

The Anacortes mill was built and operated by the Fidalgo Pulp Company in the 1920's but later became the property of the Puget Sound Pulp & Timber Company of Bellingham, Wash. After a number of years of operation by this company, it was sold in November, 1940, to Scott Paper Company. The Scott Company also owns the pulp mill at Coos Bay, Ore. On January 1 of this year, the Coos Bay and Anacortes mills were merged in the Coos Bay Pulp Corporation, with William S. Campbell as president and C. Wylie Smith as vice president and general manager of both mills. Other officers are J. L. Obet, vice president, F. C. McColloch, secretary, and W. R. Scott, 3rd, treasurer.

● Mr. Smith spent a portion of June and July in Anacortes making arrangements for the opening. He joined the Puget Sound Pulp & Timber Company about ten years ago and went to the Coos Bay mill in 1935, becoming the manager there two years later. He had been general manager at Coos Bay for more than five years when he was placed in charge of both mills at the beginning of this year.

Herman L. Hansen will be the resident manager at Anacortes. He joined the Coos Bay mill staff in 1936. In 1940 he was transferred to Anacortes, when that mill was bought by Scott Paper Company. He was previously office manager at Anacortes.

Mr. Lewis will resume his duties as superintendent. He had been superintendent of the mill under the Puget Sound Pulp & Timber Company and continued at the post since it has been operated as a Scott subsidiary.

Mr. Lewis has had a number of years experience in supervisory capacities in the Pacific Coast pulp industry.

Powell River's Utilization Of Wood Debris Progresses

Logging by new methods on 6,000 acres per year, Comox Logging & Railway Company estimates about 25 cords per acre, or 150,000 cords annually, will be salvaged for pulp production ... Laboratory staff under Harry Andrews, Mill Control Superintendent, has started tests of new sources of materials.

RAPID progress is being made by Powell River Company and Comox Logging & Railway Company in the organization of an experiment in logging debris utilization that may have far-reaching significance for British Columbia's pulp, paper and timber industries. The experiment will, indeed, be watched with close interest throughout the Pacific Northwest for it may provide the key to unlock new wealth in the form of raw materials which in the past have been wasted and help solve the problem of dwindling wood supplies for pulp and paper mills.

In a previous issue of PACIFIC PULP AND PAPER INDUSTRY a general outline of the Powell River Company-Comox Logging program was given. Briefly, the plan is to salvage small timber fallen or left standing after the larger trees have been removed from the logging company's operation. The salvaged material is then transported to the booming grounds near Ladysmith on the east coast of Vancouver Island and towed to Powell River, where the laboratory staff is working on tests designed to make the most satisfactory economic use of it.

ROBERT J. FILBERG, MANAGER OF COMOX LOGGING & RAILWAY COMPANY, whose ideas for utilizing logging waste are now being carried out in British Columbia.

—Photo by R. H. Marlow

HAROLD FOLEY, PRESIDENT OF POWELL RIVER COMPANY, Powell River, B. C., who is actually putting to the test an experiment in log debris utilization after many years in which the idea had not gone much beyond the discussion stage in logging circles.

A more detailed account of the logging and transportation factors involved was given to PACIFIC PULP AND PAPER INDUSTRY this month by Robert J. Filberg, manager of the Comox organization and also president of Aero Timber Products, Ltd., the Canadian government corporation charged with responsibility for aircraft spruce production in British Columbia.

The whole idea of utilizing the logging waste is largely Mr. Filberg's, for many months ago the success of a logging contractor in converting the debris of cut-over forest into planks for logging roads set him thinking. If planks could be produced from that "waste," he wondered, why couldn't cordwood or pulpwood be taken out as easily—and economically, with hemlock logs bringing $15 a thousand?

Logging In Hemlock

● That is one of the fundamental facts in the whole setup, of course—that a large percentage of the small timber left in the logged-off acreage is hemlock and suitable for pulping. It would be a different story if it happened to be Douglas fir. But the importance of the experiment—and both Mr. Filberg and Harold Foley, president of Powell River Company, emphasize that the program still is an experiment—lies in the fact that many of British Columbia's larger logging operations are stretching back more and more from the Douglas fir stands into hemlock. If the pulping experiment is successful, here is a ready-made means of turning "waste" hemlock and other pulp species into profitable account.

The figures are still pretty theoretical, but on the basis of logging 250,000,000 feet of timber a year—which is a fair average for Comox—there is the prospect of producing 150,000 cords of woodpulp annually, or enough to meet the requirements of a very large pulp and paper mill.

Mr. Filberg estimates that his log production runs about 40,000 feet to the acre, meaning that about 6,000 acres are cut over in a year. Roughly, about 25 cords of hemlock can be salvaged per acre, which yields a total of 150,000 cords. Complete utilization would probably increase the yield of cordwood, or pulpwood, to 50 cords to the acre, but to attain that would increase costs considerably, at least at this stage of the operation.

To collect the pulpwood the Comox Logging & Railway Company is not attempting any fancy innovations at the outset. It is trying to use wherever possible equipment already on hand, although a certain amount of remodelling will have to be done to meet the requirements of an operation that is practically without precedent on the West Coast.

The scene of operations in this potentially highly important experiment in wood salvaging was visited a few weeks ago by a representative of PACIFIC PULP & PAPER INDUSTRY. Photographs of the equipment and type of pulpwood were made for this magazine and are published on these pages.

The operations are underwritten by a gentlemen's three-way agreement among Comox, Powell River and the British Columbia provincial government, all of whom are equally anxious to see the experiment prove successful.

The two private concerns are, of course, among the biggest in their fields of activity and this is what is bound to give real weight of au-

thority to the operations. They are not theorists and their active interest in this plan for wood salvaging is bound to draw attention of many other logging and pulp and paper interests on the Pacific Coast and even in eastern United States and Canada. They will put many thousands of dollars into the program this year alone.

Giving an idea of how big Comox is to readers who may be unfamiliar with it, this company has a total of 200 miles of logging roads in the Ladysmith area alone, all built since 1936, and for 35 years has been logging by railroad in the Courtenay, B. C., where it is now also starting to log by truck.

The pulpwood is being collected over hundreds of acres near Ladysmith which were logged with shovels (cherry picking) instead of by the conventional high lead yarding. It is an unusually large area to have been done this way, a method usually followed only on roadsides and small areas. It is in what was easy road building country and as a result the many extra roads built for the cherrypickers are now helpful in the yarding of pulpwood.

Swede Buckers Knew Their Job

● Some of the pulpwood was knocked down in the logging but a great part of it was standing. Swede buckers were sent to the area to fall the small trees and paid on the basis of their average earnings for the previous two months. There are a lot of "big tree" men in the Comox organization, just as there are in every other important far western logging company, who might have looked with disdain on this work with such small trees and even be a little embarrassed about it, as father would when he's caught playing with sonny's toys. But not these Swedes. They knew the value of such wood salvaging operation as they had seen it done in Sweden and they did their job with enthusiasm. As a result of their work the logged land was "cleaned up," looked much better and fire hazard was lassened. It might be noted here that natural growth is strong in the Ladysmith region and great areas covered with thriving seedlings for new forest growth were seen.

Cold decking of the pulpwood began on June 3. A crew of three young Canadians were assigned to the job with what Logging Superintendent James Sheasgreen has dubbed "the peanut picker." This is a modification — or diminutive, if you please—of the term, cherry picker. The first machine used was a 2½ ton Day & Elder truck with old fashioned hard tires, a light International Harvester drive and a Willamette Ersted hoist. It has only a light 9/16 inch main line and a 7/16 inch haulback, operating over a 28-foot boom, or A-frame. The three young men are engineer, who works in the cab, the hooker, who is the boss and works in the woods, and the chaser, who works on the pile of pulpwood gathered in, unhooking the lines.

Six piles were done in June. Pile No. 1, shown in accompanying photographs, contains 5,400 cubic feet of solid wood. The others vary from 4,200 to 7,200 cubic feet. Tops run down to four inches diameter, averaging six inches and lengths are 10 to 80 feet, averaging 35 feet. From one setting, the "peanut picker" will work over an average radius of 300 feet or about four acres. With such comparatively light stuff, it could hardly be called "dangerous" work.

Another "Peanut Picker"

● Near the Comox offices at the quaint old Ladysmith hotel is another "peanut picker" painted in bright yellow, and ready to go to the aid of its mate in the woods. This one is an old two-ton White truck with a Chrysler industrial fluid drive engine. Hoists on both of these "peanut pickers" were formerly used for swifting over water. They are light, easy-handling equipment.

It is also contemplated that use of a "tree" may be practical for future yarding. An A-frame would be used to raise the "tree" and with a high lead over the "tree" and a light machine, cold decking could be done over a radius of 400 to 500 feet.

It is important to remember these operations are all experimental. Day by day, Comox and Powell River officials may change their methods. It is likely that a trial will be made of cutting the pulpwood to 12-foot lengths at the "landings" where it is cold-decked. The pieces then could be loaded by shovel, or preferably by orange-peeler device onto trucks and then hauled down to tidewater.

"It is probable that we will be able to do a lot of the hauling during the dry season when work in the woods is ordinarily suspended or perhaps sometime in winter," said Mr. Filberg. "There is no reason in the world why we couldn't operate our whole fleet of trucks on a 24-hour basis during such periods. We could load and transport very fast under such conditions without interfering with our normal log-hauling operations."

ON THE COVER

● is Mrs. Maranda Alberta Sellin, who was 65 years "young" on July 13. She is the "size and color man" at the Port Angeles, Wash., division of Fibreboard Products Inc.

She is shown at her post on the beaters, no easy job for any woman. Mrs. Sellin has a grandson working in a Kirkland, Wash., shipyard and her husband is employed in a sawmill. Besides doing this job, she has raised a big victory garden.

Mrs. Sellin was one of the first women to go to work in the Port Angeles Fibreboard mill, thereby releasing a man to fight. She hasn't missed a shift in more than seven months. In recent years, she has worked as a mining prospector and pitched hay in eastern Washington. Hundreds of people in Port Angeles know her and admire her as one of their most highly respected citizens.

There are now more than 30 women doing men's jobs in the Port Angeles Fibreboard plant out of a total personnel of about 200 employes. Many are doing heavy work in the finishing room and blow pits.

SHOWING LOADING PROCEDURE by use of orange-peeler loading device. This picture was taken in a Quebec operation. On Vancouver Island, the use of cherry pickers mounted on tractors is one method considered for loading and hauling to tidewater.

Transport Problem

● The trucks hauling the material would be equipepd with big self dumping box bodies on the deck capable of carrying 15 to 20 cords to the truck. Transport to the pulp mill is something to be worked out by trial and error and this will be largely the problem of Kingcome Navigation Company, Powell River Company's sea transport subsidiary, but the erection of 80-foot square shingle bolt cribs lashed with cables and capable of holding about 200 cords is favored. Net booms such as are used on the Great Lakes have also been suggested.

The cut-up rig is probably the most novel feature of the production set-up in the logged off areas. This is based on the device operated at the Fraser Mills plant of Canadian Western Lumber Company for cutting peeler log cores in the plywood mill. It was designed and built by John Hoyem, master mechanic at Fraser Mills. The log is clamped by hydraulic action to a carriage that slides forward on roller bearings to meet the saw that rolls out to the log on a slide at a right angle. This principle is adopted in order to meet the requirements of small logs which could not be handled by the more conventional methods. Four -inch diameter is regarded as the present minimum size for the logs.

Ford engines will be installed for all phases of operation requiring power—on the yarder, the cutter and conveyor chain.

Other Methods Considered

● But it may yet prove best to haul the pulpwood down to the water front at Ladysmith in long lengths. In this case, the logs may be put on trucks with stakes and with a wrapper around them. The bundles of logs then could be lifted off the truck and put into the water, instead of being dumped as is ordinarily done. The wrapped material could be either floated or put on the top of rafts, built up like a Davis raft.

The road to where the pulpwood is being cold-decked is about seven miles from the Comox headquarters in Ladysmith, partly over a paved road. The route, incidentally, passes over what is reputed to be the highest truck logging bridge in the west —a 195-foot high timber bridge, 500 feet long, built in 1941 over Haslam creek.

Jack McQuinn, general logging superintendent of Comox, is well known in Canadian and western logging circles as the inventor of the McQuinn pre-loader, a special device for loading long logs. They are loaded in an A-frame on false bunks and wire ropes then lift the front of the load as a truck backs in underneath. When the truck moves forward it pulls the load off the bottom of the A-frame and carries it away. An important point about a big concern like Comox is that they are able to try out all kinds of devices and equipment to find out the best methods and they do so.

Mr. Sheasgreen as superintendent at Ladysmith, is directly in charge of the pulpwood operations. His right hand man is Joe Cliff, the logging foreman. John Duncan is engineer at Ladysmith and Louis Biss is office manager. Angus MacBean, assistant forester, forest branch, Department of Lands, is the representative of the British Columbia government at the scene.

Testing of Material

● When the pulpwood reaches Powell River it will become the problem of Harry Andrews, control superintendent, and his laboratory staff. It may be some time before the pulpwood from the Comox operation begins to arrive at the mill in volume because it is the intention to leave the accumulated logs in the woods for about three months after cutting so that the bark may be more easily removed. But some of the material has already reached Powell River for testing, being transported on the top of flat booms.

In asmuch as research men point out that different grades of pulp are obtainable from different parts of the tree the job of sorting and segregating may in time become an important phase of the operation. If the butts, for instance, are regarded more favorably than other sections of the tree they will be separated and allocated accordingly.

Powell River Company, which has been carrying on research work for a considerable period, regards the experiment in logging debris utilization as exceedingly important. D. G. Stenstrom, pulp mill consultant, has been working on various studies for the company for more than a year.

Utilization of logging waste is only one aspect of the work being done by Powell River's research department, whose job is not only to make the most effective use of raw material but to develop new sales outlets through market analysis, to create new products to meet fluctuating market requirements and find ways of making maximum use of equipment already available. Most of these functions are closely associated. When a process has been found to convert logging debris into satisfactory pulp, the research staff will then go to work on refinement of that pulp.

Challenge to Ingenuity

● In a statement issued through the company's house organ, Powell River Digester, it is stated: "The war has forced many apparently drastic, but in the end possibly salutary changes in industry as well as in society. In the pulp and paper industry we have become accustomed to the use of logs in our manufacturing processes. Logs were reasonably easy to obtain. Why look around for costly substitutes?

"This situation no longer holds. Whether we like it or not, we have to discard old habits and old ideas. We have to be prepared to meet the present with all the ingenuity and resource we can muster, and we have to be prepared for what the future will demand of us.

"It is with these factors in mind

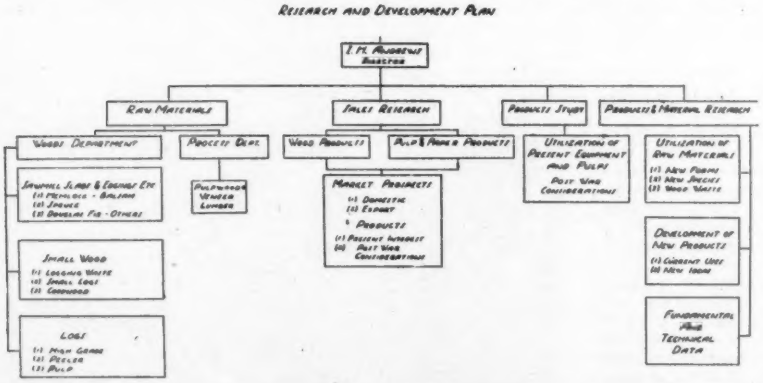


CHART SHOWING THE GENERAL SET-UP of the new Research and Development Planning scheme, initiated by the Powell River Company. Harry Andrews, Control Superintendent, is the Director.

AN ENTIRELY NEW EXPERIMENT IN COLLECTING PULPWOOD LOGS LEFT ON LOGGED-OVER LAND is being undertaken at Ladysmith, on Vancouver Island, by the Comox Logging & Railway Company. The Powell River Company, which plans to utilize this former waste wood, and the British Columbia Government have entered a three-way gentlemen's agreement with Comox to finance the experiment which may open up new sources of wealth in the form of raw materials for the pulp and paper industry.

These photographs, showing scenes at the site of operations and the men who are engaged in the enterprise, were made by a PACIFIC PULP & PAPER INDUSTRY representative.

Upper left—The so-called "peanut picker" in action. A light machine with light lines may be the butt of jokes by oldtime bigtree loggers. But it makes for fast, easy handling and it is not dangerous work. This equipment consists of a 2½-ton truck with old-fashioned hard tires, a light power unit, a 28-foot boom on an A-frame, a 9/16-inch main line and a 7/16-inch haul-back. At one setting, it will yard logs over an area of about four acres.

Center left—These are not pulpwood logs. But this method of loading by heel booming may be used in the pulpwood operations. In this picture, a Marian gas electric (¾-yd. shovel) cherry picker is loading from the rear end of a truck, heeling the top end against the boom. With the slender pulpwood logs, this probably could not be done. They would be apt to break in two. But they could be heel-boomed from the butt and pre-loaded on false bunks, so the butt ends would be at the front end of the trucks. Each load would be wrapped. The wrapped material could be lifted into the water and floated or else placed on a raft, built up after the manner of a Davis raft.

Lower left—From left to right are shown ANGUS MACBEAN, Forester, representing the British Columbia Department of Lands at the operation; JOHN DUNCAN, Resident Engineer, and JOE CLIFF, Logging Foreman at Ladysmith.

Upper right—JAMES SHEASGREEN, Superintendent of the Comox logging operations in the Ladysmith area. It was Mr. SHEASGREEN who dubbed the pulpwood yarding equipment the "peanut picker," a variation of the name "cherry picker," commonly applied to the shovels used in yarding logs on railway right-of-ways.

Lower right—The first pile of pulpwood cold-decked at Ladysmith. The tops average 6 inches in diameter. The lengths are from ten to eighty feet and average about 35 feet.

that the Powell River Company is setting up its research and development planning committee. Today it is difficult—it is virtually impossible—to purchase equipment or manufacturing material. Yet the plans provide, first of all, for the direction of our immediate energies to the present, to whatever tools are at our disposal for the maintenance of operations; but beyond that are concrete proposals to cover, anticipate and, as far as possible, meet the problems of a post-war world by a fuller utilization of an imaginative and social minded directive control."

Equipment Requirements and Costs Of Unique Wood Salvage Program

Plans for the practical utilization of logging waste have become a live issue throughout the Pacific Northwest as well as in the eastern forested area, and it is significant that this subject was dealt with during the past few weeks in papers presented by D. G. Stenstrom, consulting engineer for Powell River Company, and Prof. Bror Grondal, of the University of Washington college of forestry before the woodlands section, Canadian Pulp and Paper Association's annual meeting in Montreal and the annual meeting of the Western Lumber Manufacturers' Association in Vancouver, respectively.

"Something must be done with the so-called logging waste in British Columbia," declared Mr. Stenstrom. "The waste left behind in the average logging operation on the west coast is often greater in cords per acre than the average pulpwood stand in the east, but heretofore log prices have been so low as to preclude the salvaging of this waste on economic grounds.

"With hemlock now at $15 a thousand feet, however, it seems entirely possible to do something about salvaging the waste and still be within the price of the log."

The main idea is to convert waste into barked pulpwood, 4 or 5 feet long, on or near the logged-over area—this to avoid paying transportation costs on purely waste material such as bark, sawdust, decayed wood, etc.

Portable Pulpwood Mill

As will be seen in the accompanying diagram (Fig. 1), the idea may be described briefly as a "portable pulpwood mill," similar in principle to a portable sawmill except that the end product is pulpwood instead of lumber. The illustration is practically self-explanatory. A large donkey sled, perhaps 60 ft. long, is built to carry the following equipment:

(1) A power unit, preferably a diesel of—say—150 h.p.
(2) Conveyor system as per diagram.
(3) Swing cut-off saw.
(4) Carriage and splitter saws to reduce the reclaimed material to pulpwood size—say 8 in. x 8 in. —or whatever size is wanted by the pulp mill.
(5) Two concave-head barkers.
(6) Two cross-conveyors, one for inside wood and one for barked wood, to deliver to dump-body trucks.

It is understood, of course, that this arrangement is tentative and subject to revision. For example, it may be advisable to pass up the barking and do this at the pulp mill.

Method of Operation

The method of operation, as discussed, may be described as follows, also with the reservation that it may, and likely will, be changed to some extent in actual practice:

The portable mill, which should be self-propelling, i.e., equipped with drum and cable for moving from one setting to another, is placed near the main truck road on a logged-over area.

BUCKING: Two buckers, using a small-size, gasoline-driven chain saw go over the ground, bucking long logs down to lengths which can be handled by the mill, also cutting for the next step, which is yarding to the mill. Two men are required.

YARDING: A small or medium-size tractor equipped with an arch and skidding pan, and, possibly also with a drum, seems the best equipment for yarding the wood up to the mill. Two men are required.

LOADING: For lifting the yarded wood onto the first conveyor, it is thought that a small edition of a regular log loader, with friction drive from the main line shaft, will work satisfactorily. Professor Grondal has in mind a bar buckling arrangement, similar to that used in the "Well" type of log haul, but Mr. Stenstrom is inclined to favor the log loader idea as expressed in the foregoing. One man is required.

SLASHER OR CUT-OFF SAW: The conveyor mentioned above carries the blocks or logs ahead to a swing or jump saw, which cuts the wood into 4 or 5-foot lengths and also trims off splintered ends. One man is required.

The following men would be required: Bucking, 2; yarding, 2; loading, 1; slashing, 1; sawing, 2; cleaning, wood, 1; barkers, 2; truck drivers, 1; block piling, 1 — making a total of 13 men.

Equipment Operating Cost

The equipment operating cost can be roughly estimated and is intended to give merely an idea of the approximate cost. This estimate, per day, is as follows: chain saw, $2; tractor, $15; Diesel power unit, $15; truck and trailers, $15 —giving a total of $47.

"In transporting blocks to the pulp mill by water," Mr. Stenstrom stated, "a net boom would fit the case very well. The boom would be placed alongside the wharf and the wood dumped into a wooden chute discharging into the center of the boom. The cost of towing should not exceed one cent per cord per mile. For example, from Port McNeill to Powell River the towing cost should not exceed $1 per cord, including the write-off on booms.

"As yet no boom of this type has been built, but the idea seems to have considerable merit as applied to towing in the rough, exposed waters of the West Coast. (Note: The net boom is illustrated by Fig. 2.)

"The cost of unloading at destination and delivery to the pulp mill wood conveyors in the Powell River sawmill should not exceed 25 cents per cord. The total delivered cost, then, would be: delivereed in boom, $3.30; towing, $1; unloading, etc., 25 cents—making a total of $4.55.

"This appears low, but inasmuch as the equivalent value of barked cordwood, based on $15 logs, is somewhere around $10 per cord, there seems to be a liberal spread between the estimated cost and value, so that, if the cost should be $6 instead of $4.55, the salvaged wood is still below log cost."

SPLITTER SAWS: From the cut-off saw, the blocks are carried by conveyor to the splitter saws, where they are reduced to pulpwood size—say 8 in. by 8 in.—or to any size required by the pulpmill. Two men are required.

CLEAN WOOD CONVEYOR: After sawing the blocks drop onto a conveyor moving towards the barkers. The inside or clean wood, however, is diverted into a cross-conveyor leading directly into the dump truck standing on the main road. One man is required.

FIGURE 1—PORTABLE PULPWOOD MILL

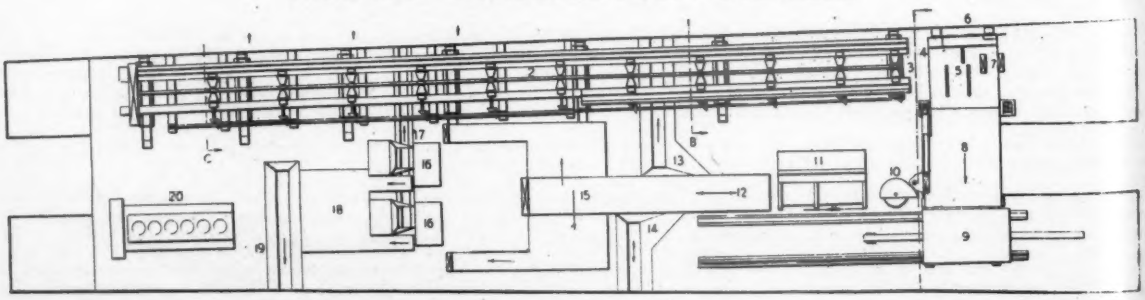


FIGURE 2—NET BOOM FOR TRANSPORTING BLOCKS BY WATER

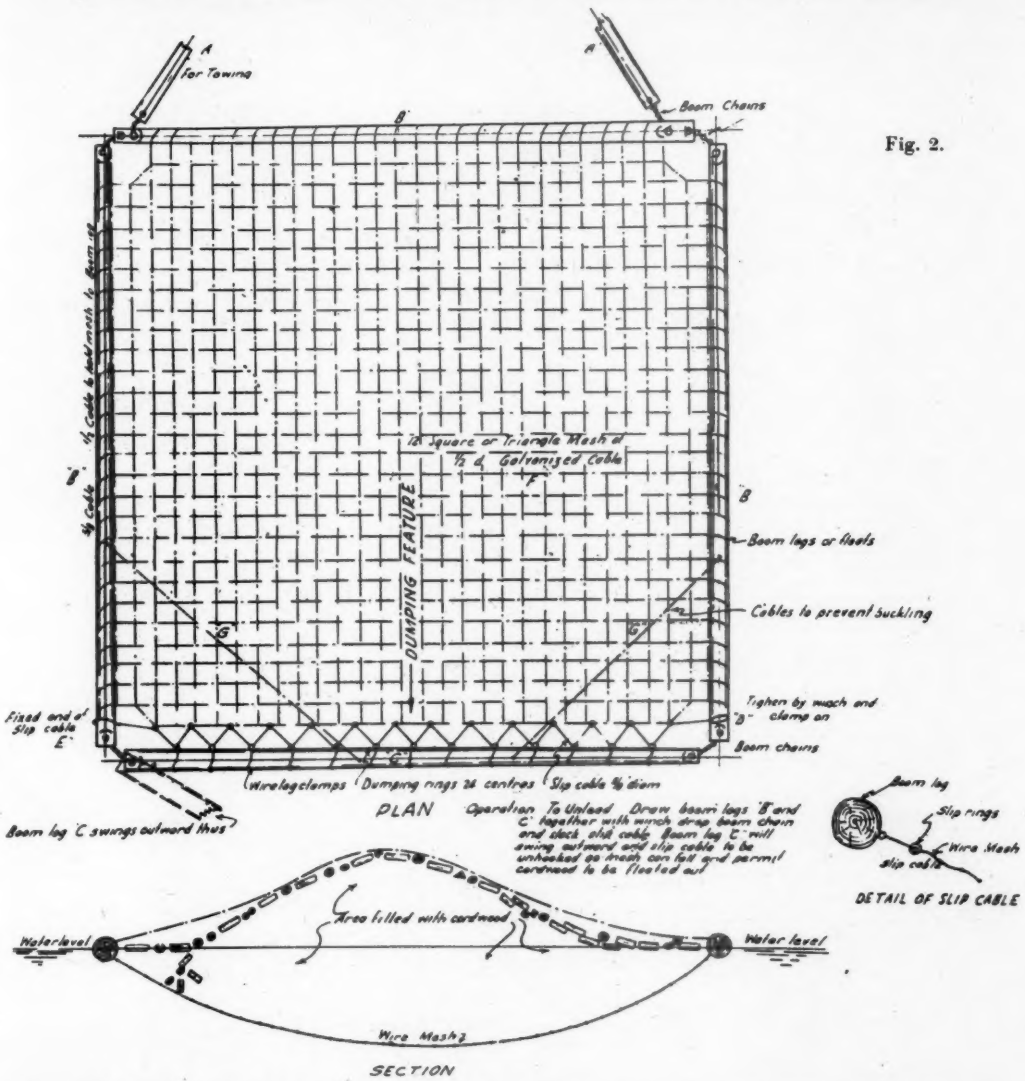


Fig. 2.

BARKERS: Professor Grondal's plan contemplates barking all wood so that, upon leaving the mill, it will be ready for the chippers. "This is desirable, of course," Mr. Stenstrom stated, "but, we can forsee the possibility of the barking slowing up the total mill operations to a point where it might be desirable to pass it up, and run the wood through the drum barkers at the pulp mill. This question can be safely left open for the time being. If barkers are used, they will be of open, concave-head type, which are simple and inexpensive. This type is generally used for barking sawmill slabs."

The barked wood will be taken away by a cross-conveyor leading into the dump truck. Two men are required.

Hauling to Tidewater

"If trucks with dump bodies are used," Mr. Stenstrom said, "two will be required. It may be advisable to use trailers with dump bodies instead. In that case, one truck should be able to handle the estimated production of 5 cords per hour by using two or more trailers to be loaded while the truck is away. It seems necessary to pile the wood in orderly fashion in the truck or trailer bodies for two reasons: measurement and increasing the quantity carried." Two men are required—one driver and one piler.

This completes work to be done in the woods.

"It is practically certain, of course, that some changes in the original plan will be made, such as, for instance, using a horizontal air-driven splitter in place of splitter saws. However, the general idea is the main item of interest at this stage.

Cordwood Possibilities

"In addition to this plan, the time is rapidly drawing near when Coast pulp mills will have to consider regular 4-foot cordwood. Sporadic attempts at producing cordwood have been made here in the past, but have never amounted to much; and again, low price of pulp logs have prevented the development of any sustained cordwood production.

"The main drawback to either cordwood cutting or wood salvage operations on the Coast is the high wage schedules effective on all loggers, and wich can only be rectified or made profitable by the employment of machinery. Speaking generally, there is no woods labor on the Coast comparable to similar labor in the East. In other words, our loggers are largely machine operators, and do not take kindly to hand work such as cordwood cutting. This, however, may be corrected when men now working in war industries are once more on the labor market and are willing to accept ordinary work at reasonable wages."

Outlook for Industry

Prof. Grondal, speaking to the Western Lumber Manufacturers' Association of Canada, strongly urged lumber manufacturers, as well as pulp and paper makers, to take steps to utilize forest waste.

He said that if timber in the Pacific Northwest was liquidated at its present rate without adequate provision for reforestation or fuller utilization, there was small prospect of permanence for either the lumber or pulp industries.

Prof. Grondal said that the lumber industry had been the "patron saint"

of the pulp mills on Puget Sound because it had made available large quantities of pulpwood at low prices that otherwise would have been unmarketable. This situation is changing as a result of the introduction of lighter equipment by the loggers to make selective logging more feasible; also the fact that hemlock and other pulp species are finding higher prices as lumber.

"If the pulp mills continue to rely for their pulpwood on lumber organizations and loggers primarily working for sawmills, I doubt if they can exist long," he declared. "If there was no market for lumber, and the pulp mills were suddenly called on to rely on their own resources, I doubt if many could survive. The pulp mills should make arrangements as soon as possible for their own backlog of timber."

He suggested the extensive use of "harvesting machines" for converting waste wood in the forest into pulpwood.

(A further report on the progress of the experimental pulpwood operations at Ladysmith, B. C., and Powell River, B. C., will be made in the August issue of PACIFIC PULP & PAPER INDUSTRY. It is probable that by then some decisions will be made, at least tentatively, regarding equipment and methods to be used).

Keith MacBain Joins Match Subsidiary

● D. K. MacBain, formerly plant engineer at the Longview, Wash., mill, Weyerhaeuser Timber Company, left July 7 for the east to take up his new duties as chief engineer with Berst-Forster-Dixfield Company, subsidiary of Diamond Match Company. His office is at 155 East 44th Street, New York City.

Mr. MacBain will be chief engineer for all of the five mills of the eastern concern. These comprise three in Maine, one in Minnesota and one in New York. They manufacture paper and wood products, including matches.

He had served for 13 years with Weyerhaeuser, starting in the lumber division in Tacoma and later transferring to the pulp division. During the past two years, Mr. MacBain spent most of his time at the Everett, Wash., pulp mill of the Weyerhaeuser Timber Company, where he had charge of construction of the new whole log barking and chipping plant. He continued as plant engineer at Longview, usually spending an average of a few days a week there.

On completion of the new Everett barking and chipping plant, which was described in the May Annual Review Number of PACIFIC PULP & PAPER INDUSTRY, Mr. MacBain went east to meet Berst-Forster-Dixfield officials. He returned here about a month ago for a California vacation, preparatory to moving his family east.

Mr. MacBain was born in Everett, Wash., and was graduated from the University of Washington Mechanical Engineering School in 1927. Prior to joining Weyerhaeuser, Mr. MacBain was employed by O. C. Schoenwerck, consulting engineer (offices now at 3240 Lake Shore Drive, Chicago). His first connection was assisting Mr. Schoenwerck in construction of the Olympic Forest Products mill, now the Port Angeles, Wash., division of Rayonier Incorporated.

KEITH MacBAIN, new chief engineer of Berst - Forster - Dixfield Company, Diamond Match subsidiary, which operates four wood converting plants in Maine and Minnesota and a paper converting plant at Plattsburg, N. Y. Mr. MacBAIN had charge of design and construction of the new barker-chipper unit at the Weyerhaeuser Timber Company's Everett, Wash., pulp mill. Mr. and Mrs. MacBAIN and their twin six-year old daughters, Mary and Katherine, will live in New York City.

Camas Shooting for Million Dollars in Bonds

● Jack Robertson, safety supervisor of the Camas, Wash., plant of the Crown Zellerbach Corporation and chairman of the Second War Loan drive at that plant, reported that over $66,000 in bonds were purchased by employees in addition to the regular monthly payroll deducations during the drive.

The Camas employees have purchased $555,000 worth of War Bonds to date and they are ambitious to make the total more than a million by the end of the year.

The Crown Zellerbach corporation and its subsidies purchased $1,500,000 worth of bonds during this drive.

Ivan Campbell Receives Navy Call

● Ivan D. Campbell, instrument supervisor of the Puget Sound Pulp and Timber Company of Bellingham, Wash., recently received a commission as ensign in the United States Naval Reserve. Ensign Campbell has been with the pulp company since 1939, starting to work in the laboratory immediately after his graduation from the University of Idaho.

On his way to indoctrination school at Cornell University, Ithaca, N. Y., the new ensign visited his brother, Lieut.-Col. Glenn Campbell, former bacteriologist for the Bellingham Water Department, now stationed at Carlisle Barracks, Carlisle, Pa.

Stables Is Ocean Falls Sulphite Superintendent

● Norman L. Stables has been appointed sulphite superintendent at Pacific Mills, Ltd., Ocean Falls, B. C. Mr. Stables was with the Port Alice, B. C., mill of B. C. Pulp & Paper Company for the past twelve years as sulphite preparation foreman.

Mr. Stables is Ontario-born and he received his education at the mining school in Haileybury. He left school to join the Royal Bank of Canada. In 1911 he entered the pulp and paper industry with Abitibi Power & Paper Company, Iroquois Falls division. Then he worked with Spruce Falls Pulp & Paper Company, Metagami Pulp & Paper Company and Spanish River Pulp & Paper Company.

Coming to the coast from Thunder Bay Pulp & Paper Company, Mr. Stables joined B. C. Pulp & Paper Company and became preparing department superintendent in charge of production. He served in that capacity for 14 years until his appointment as sulphite superintendent at Ocean Falls.

Coast Men In India With U. S. Air Force

Walter R. Dilley, Pioneer Division, The Flintkote Company, Los Angeles, reports that a copy of PACIFIC PULP & PAPER INDUSTRY brought a touch of their homeland to two men in Uncle Sam's armed forces in far-off India.

One was his son, Lt. Frank Dilley of the Army Air Corps. The other—whose name Mr. Dilley did not know—was a chemist from a Pacific Northwest pulp mill. It was the latter who received the copy and who burst into Flyer Dilley's tent with it.

Telling his dad about it, Lt. Dilley declared it was like meeting again with old friends.

Everett Weyerhaeuser Employes Subscribe $3356

Over and above their regular payroll deductions, the employes of the Everett, Wash., mill, pulp division, Weyerhaeuser Timber Company, bought an additional $3,356 worth of war bonds in the Second War Loan Drive, it was announced recently by Russell J. LeRoux, mill superintendent.

Lass Dehydroform Makes War Products From Waste

"Mechanical Devilfish" with multiple arms turns out pipe plugs for U. S. Army Engineers at Santa Cruz plant. » » » Hollow containers for oil resist pressure up to 800 pounds. » » » New chianti package is better than the original.

● Yesterday's newspapers, which carried to an anxious public spot news from the battlefronts of the world, are going back into the war effort. They have enlisted for the duration through an ingenious method of rehabilitation dreamed up, patented, and put into practical operation by W. P. Lass, of Santa Cruz, Calif.

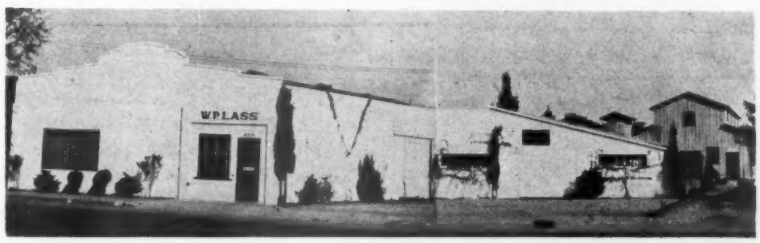
In peacetime production it was not unusual to see your Sunday paper tossed into the hopper and emerge as an attractive flower pot. But today's production is different. The same kind of newspapers are fed into the mixing box, but most of them come out as six-inch pipe plugs for war construction of the U. S. Army Engineers.

They are being lifted from the end of the production line, under present production schedules, at a rate approximating 10,000 plugs a day.

This pipe plug was developed and its treatment of impregnation for strength and durability has been taken care of entirely in the Lass plant. The plugs are used for closing each end of a six-inch iron pipe, prior to welding together.

Production relatively is a simple system, devised, built and operated by Mr. Lass, in cooperation with his son, Francis, now sole owners of this unusual war industry. And, the owners are proud to point to their plant as being almost entirely "home built."

Basic ingredients are old newspapers and water. The rest is Lass ingenuity. The essential piece of equipment is a spider-like turntable of many hollow arms, frequently likened to a great octopus. It was patented by Mr. Lass June 11, 1940, as "a method and apparatus for forming pulp articles."



A SPRAWLING BUILDING AT SANTA CRUZ, CALIF., houses the factory of W. P. LASS, where yesterday's newspapers go into many essential war products. Office in small two-story building at the right.

Dried by Heat

● The original ten arms now are being increased to 20, doubling capacity. With molds in mouth, the arms dip into a trough of pulp, picked up by suction, and in the process of circling the merry-go-round the form is dried by heat from a gas furnace flowing through the hollow arms. The vacumm, plus heat, deposits a perfectly dry product in the hands of the operator after completing the circuit. The mold then closes automatically, dips again, and another piece is in the making.

Molds are of steel, made in the Lass machine shop, with perforated brass, or screen, forming the pipe plug or any other object to be made. It may be a thimble-size object, or, with present equipment as large as a 5-lb. heavy-walled grease container or a 5-gal. container for other fluids. When reinforced walls are required, they are interlined with burlap, canvas, or wire screen, and double-dipped. Naturally, such containers reduce production by half.

Present production of plugs for U. S. Army Engineers, however, presents no such problem. Released from the grasp of the Lass Dehydroform, the mechanical devilfish of multiple arms, the plug is dipped into a bath of boiling asphalt chemically treated, then placed in a baking oven. It comes out a substantial plug, defying efforts to crush or bend it by hand.

Similarly treated articles, including hollow containers for one quart of oil or other penetrating fluids, have resisted in laboratory tests an 800-lb. pressure before showing signs of crushing. There are many varieties of vacuum sealed tops, varying in size according to contents. Some caps may be sealed in, making them practically as solid as the walls of the container.

New Chianti Package

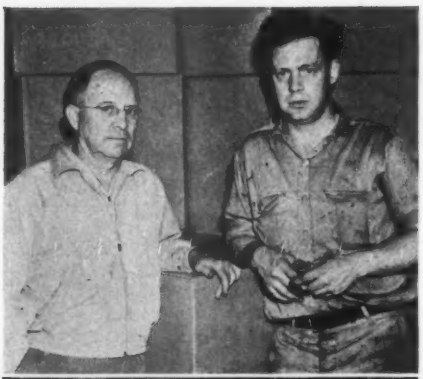
● The war is responsible for another unique article now in mass production at the Lass plant. It is a new type of chianti package for California wines, developed by Mr. Lass in cooperation with the Owens-Illinois Glass Company. It has replaced the familiar "Made in Italy" baskets of the pre-war era, and is declared more practical, less costly, than the original. They are made to fit bottles of both 16 and 32-oz. capacity.

The basket wrappings are made in one piece from molded paper pulp, footed to form the base of the bottle. The outer circumference is corrugated to provide close resemblance to the former pattern using paper twine baskets. Colored paper side wrappings are wire-stitched at four points around the circumference and provide attachment for the paper twine handle which is looped around the neck of the bottle in the conventional manner for chianti containers.

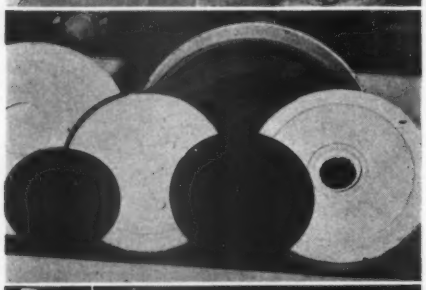
Better Than Original

Principal technical complaint of vintners against foreign-made chianti packages was lack of uniformity in bottles and raffia wrappings. This new born-of-the-war product by Lass assures consistent accuracy to the minute fraction of an inch. Current production reaches several thousand baskets a month for California's Italian Swiss Colony and the Roma Wine Company.

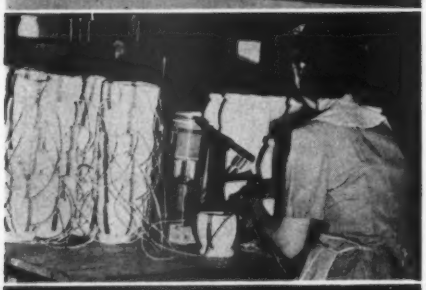
One importance of the new package to the vintner and bottler lies



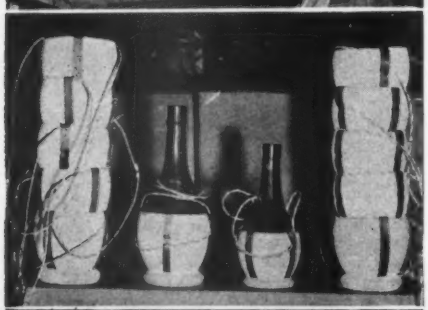
W. P. LASS (left) AND HIS SON, FRANCIS, who built and operate a unique pulpboard factory at Santa Cruz, Calif. With war orders, it has grown to a plant employing 25 people three shifts. FRANCIS LASS spends much of his time in the machine shop turning out molds.



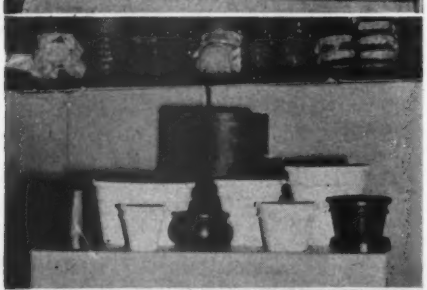
FLAT ARTICLES IN VARIOUS SIZES and forms are among the products of the plant. At lower left is an asphaltic pipe plug which is being made by the thousands for U. S. Army Engineers.



CHIANTI PACKAGES FOR CALIFORNIA WINES, replacing pre-war "Made in Italy" are being prepared here by a woman employe. These are molded in one piece. Corrugated, colored paper side wrappings are wire-stitched. Paper twine handles are looped around the neck of the bottle.



CHIANTI PACKAGES ARE MADE TO FIT 16- and 32-ounce wine bottles. This product of the LASS factory is said to be superior and more economical in many ways than was the original.



THESE FLOWER POTS CAN BE USED BY VICTORY GARDENERS, too. However, these are being made only as war production schedules permit, to accommodate old customers.

HOLLOW PULPBOARD CONTAINERS, as shown here, are made in many shapes and sizes, to meet customers' needs. When subjected to the LASS curative treatment, a quart container in laboratory tests withstands as much as 800 pounds pressure before starting to crush.

in the fact that bottle and basket-base are supplied **unassembled,** thus reducing package losses to the minimum and completely eliminating possibility of any packages being shipped to market with unsightly wine stains on the baskets. Before assembly of the basket-base with the bottle, the vintner can fill, cork, seal and label his package. The clean base is then applied with a gentle push and the twine handle looped about the neck in the conventional fashion. There is no possibility, when reasonable care is used, of getting the basket-base soiled either by wine stains or constant handling. The basket-base needs to be handled only once, and once the tissue wrap is applied, the vintner is assured of his packages arriving in the retail store in spotless condition.

Although the chianti package has always been considered expensive from the packaging standpoint, this new development reduces bottlers' costs to the minimum, because, even though a few basket-bases might be soiled, the package is not a complete loss, since replacement units are available.

Mr. Lass, instigator and inventor of this plan for producing pulp containers, long has been identified with the industry. He installed and operated a pioneer groundwood mill in Alaska, the Alaska Pulp and Paper Company of which C. W. Callaghan was president. (There are no pulp mills there now.) The Callaghan and O'Neill interests also operated a small paper mill at Soquel, Calif., a short distance from Santa Cruz.

Develop Hollow Ware

● When the Alaska mill shut down, Mr. Lass was assigned to the Soquel plant, and thereundertook experimentation with pulpboard baskets for strawberries, the growing of which was a major agricultural enterprise in that area. These experiments developed into the manufacture of hollow ware, forerunner of the present industry.

Incorporated in 1937 as the W. P. Lass Company, the firm engaged in the manufacture of pulpboard flower pots as its principal product. In 1941 the non-active stockholders withdrew, selling their interest to Mr. Lass. He and his son, Francis, designed, built and operate the present plant, including much of the machinery. As demands increased, the plant expanded and today it sprawls over Lass' half-acre at the eastern limits of the city of Santa Cruz.

After perfecting and patenting the Lass Dehydroform, the octopus-

Drawings of the Lass Dehydroform

Fig. 1 is a fragmentary plan view of a machine embodying the Lass methods for forming pulp articles.

Fig. 2 is a central, vertical section of the machine illustrated in Fig. 1.

Fig. 3 is a view of a portion of the mechanism illustrated in Fig. 2 and showing the mold assembly in the lowered position occupied while passing through a pulp tank.

Fig. 4 is a view of the portion of the machine illustrated in Fig. 3 and showing the position of the mold assembly occupied during its passage over conveyor belt which receives the completed articles as they are discharged therefrom.

Referring to Figs. 1 and 2 of the drawings, the machine is a horizontally disposed, rotary manifold which carries radial tubular arms in a generally horizontal plane. Each horizontal arm supports a mold assembly, at its outer end comprising a plurality of articulated complementary mold sections.

As illustrated in Fig. 2, a motor drives a set of reduction gearing to rotate a pulley at a reduced speed. A belt, driven by the pulley embraces a large pulley which is supported on legs extending downwardly from the arms. The lower ends of the legs are provided with casters which travel on an annular track to brace the arms and support the weight of the mold assemblies at their outer ends. The direction of the rotation imparted to the machine by the motor and drive connections described is counter-clockwise, as view in Fig. 1, so that the mold assemblies pass in succession over and into a pulp tank. The molds then pass through the major arc of their circular path, during which time they undergo a drying process and then pass over a conveyer upon which the molded and dried articles are automatically deposited.

The intensity of the suction through the molds at different times during their cycle of operation is varied. The suction in the different mold sections at the time that the pulp is being deposited in the mold is varied also. For ideal operation the suction in all of the mold sections is comparatively light as the mold dips into the liquid pulp and is increased gradually as the mold emerges and undergoes its initial drying.

Owing to the manner of construction of the machine, there is a natural drainage maintained at all times during the drying operation between the pulp article and the central rotary manifold. This prevents any possibility of moisture that has been drawn from the pulp or condensation formed in the tubes returning to contact the dried or partially dried article. Furthermore, this feature obviates the necessity of intetnse heat to dry the articles and the usual ovens, and the like, may be done away with entirely.

Fig. 1.

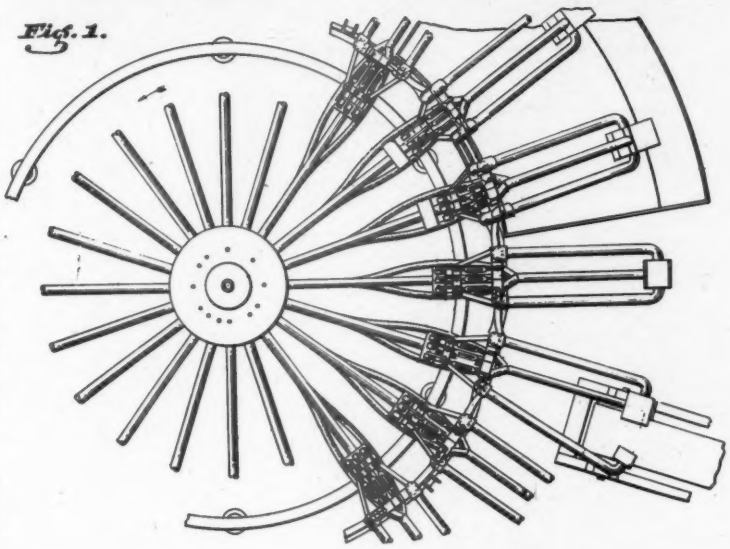


Fig. 2.

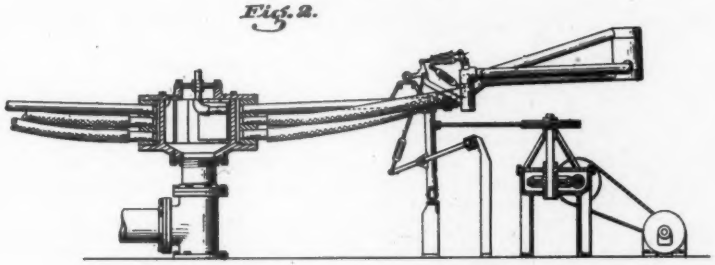


Fig. 3.

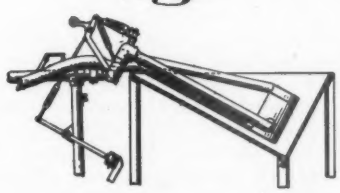
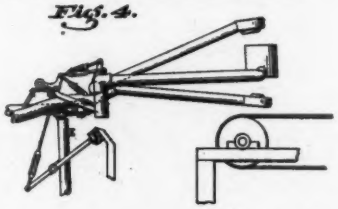


Fig. 4.



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like dipping and drying apparatus known in the plant as the forming machine, next item of paramount importance was a power plant. Not having immediately available an approximate $5,000 for modern motors, they did the next best thing. They scoured the countrysides and finally found an engine to their liking mounted on a Holt tractor, no longer in service, and priced at about $100.

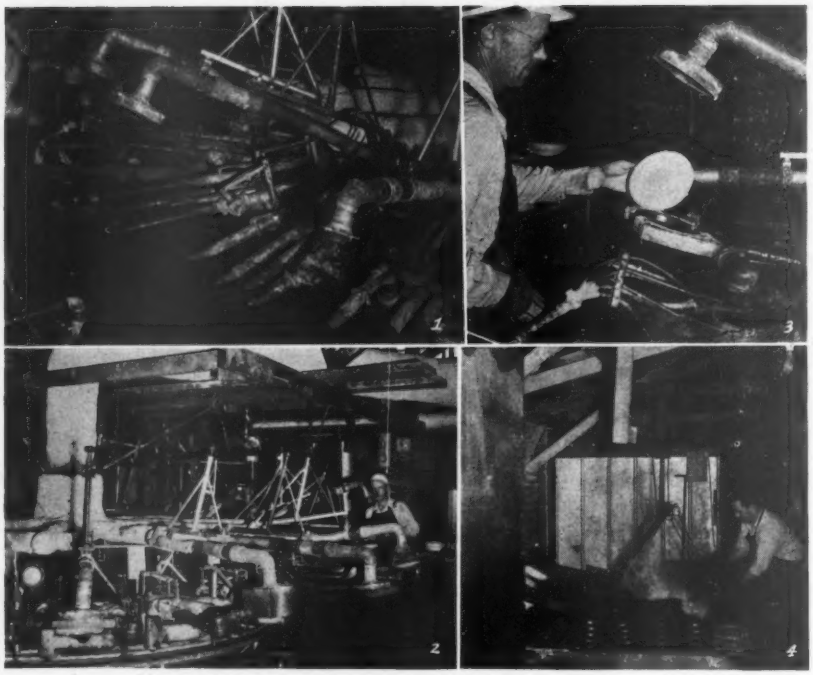
For economical operation, the engine was converted to operate on natural gas, plentiful and economical, with no standby charges. The Holt converted engine still supplies power for the entire plant, including air compressor, vacuum pump and auxiliary equipment.

A home-made mixing box, into which discarded newspapers are fed to emerge as products essential to the war effort, does the work of a "store bought" beater.

Lawnmower Is Used

● A Jordan was necessary, but to buy a new one was beyond the limited budget of this budding industry, so again Lass ingenuity was put to test. The problem was solved by combining an old centrifugal pump with discarded blades from a common lawnmower, and the contrivance performs perfectly.

Various methods have been devised for treating pulpboard products, depending upon use and contents. They emerge with the absorbency of blotting paper, readily responding to any of the various secret treatments of the Lass factory. If foodstuffs are to be the contents, virgin pulp is substituted for newspapers as the basic foundation. In any event, the product emerges as a plastic container, man-



VIEWS OF THE LASS PROCESS IN OPERATION

(1) Steel molds with perforated brass forms are attached to the arms of the LASS DEHYDROFORM. Here the molds are shown open. They dip into the trough of pulp which is drawn tightly into form by suction.

(2) Round and round she goes, on the 20 arms of the DEHYDROFORM. When the molds lift and close, the articles are dehydrated by vacuum and heat, applied through hollow arms as they circle the merry-go-round.

(3) The mold then opens and into the hand of the operator drops—this time—a six-inch pipe plug for the U. S. Army Engineers. Ten thousand of these plugs can be produced in a day.

(4) The plugs are dipped into a bath of chemically treated asphalt, then baked in oven, partly showing at the left.

ufactured under an economic process of creating a plastic.

The entire operation is confined to a single plant. All patterns and molds are made in their own machine shop, largely under the direction of Francis Lass. Also, he has designed and made, with paternal coaching, most of the machinery and equipment.

Starting as a one-man effort, W. P. Lass, of Santa Cruz, has within a few years developed into an industry with 20 to 25 employes regularly working three shifts. With major attention devoted to production and experimentation, little to selling, the plant already has on its books many more orders than it can fill for some time.

Locke Is a CPO

William M. Locke, on leave as steam engineer at the Port Angeles, Wash., division of Crown Zellerbach Corp., is attached to the Coast Guard repair base at Seattle as a chief petty officer. He served in the Coast Guard in the last war and volunteered again for service.

His duties at Port Angeles are now taken over by T. B. Hargreaves, maintenance engineer.

Blood Bank Donors

● Employes of the Columbia River Paper Mills, Vancouver, Wash., through their union organization, have been regularly donating blood plasma to the Red Cross. Groups have made their blood bank contributions each week.

St. Helens Helps County Rank High

Columbia County was second of all Oregon counties in the Second War Loan drive, according to Irving Rau, secretary treasurer of the St. Helens Pulp and Paper Company, and chairman of the County Bond Committee. Columbia County went over its quota by over 200 per cent and maintains the reputation which the county has held for being consistently at the top in bond sales.

Employees of St. Helens Pulp and Paper Company bought bonds during the month of April to a total of 22.8 per cent of the payroll. This total included sales authorized as payroll deductions, totaling 17.6 per cent, and additional sales purchased out of pocket by the men and women of the plant.

Alan Mayhew Missing On Indian Ocean Flight

● C. Alan Mayhew, vice president and treasurer of the Sidney Roofing & Paper Company, Victoria, B. C., on leave for the duration, is "missing in action" somewhere in the Indian Ocean.

A pilot in the Canadian Royal Air Force, he was flying a Catalina flying boat on a tour of duty from his airport base in Ceylon when last heard from during mid-June. His wife lives in Victoria.

Since 1937, Mr. Mayhew and his brother, Logan Mayhew, managing director and purchasing agent of the company, have actively directed the business. Their father, R. W. Mayhew, president, was prevailed upon to stand for the Canadian Parliament in that year. He won the election and has since been re-elected, and as a result much of his time is spent in Ottawa.

First Women Employed In Weyerhaeuser Mill

In the last few weeks ten women have taken over what had been men's jobs in the Everett, Wash., mill, pulp division, Weyerhaeuser Timber Company. As this company's contribution toward easing the acute manpower problem in the Pacific Northwest, four of the women are baling in the machine room and the others are employed as pulp tester, fuel tenders' helpers, knotter screen tenders, and as sulphite cleanup.

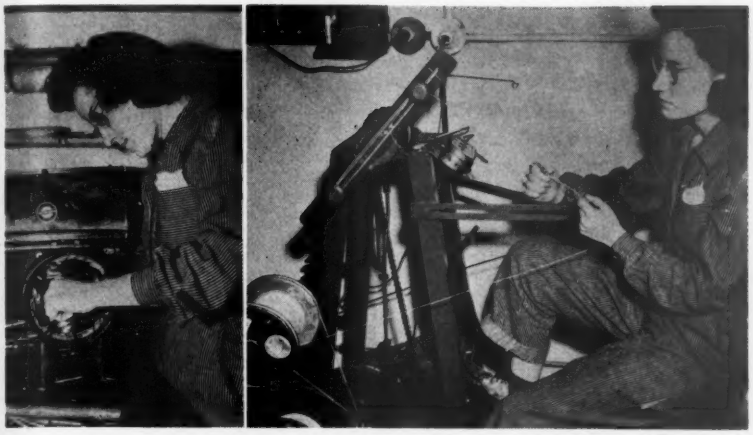
This is the first time women have ever worked in that Everett mill.

McMaster Appointed Ministry Advisor

● A. E. McMaster, former vice president and general manager of Powell River Company and for many years one of the foremost figures in the British Columbia pulp and paper industry, has been appointed financial advisor to the Canadian minister of munitions and supply at Ottawa, and it is understood that he will have much to do with the program for re-negotiation of government contracts.

Mr. McMaster retains his interest in the pulp and paper business, however, and his friends expect him to be an active participant in the industry's post-war developments on this coast.

Oregon Woman Masters Difficult "Man's Job"



TILL JIMMY COMES MARCHING HOME, MRS. EVELYN MERRILL is a motor winder in the electric shop of ST. HELENS PULP & PAPER COMPANY. These photos show her winding a one-quarter horsepower motor from a water cooler refrigeration system. It happened to be the first single phase motor she ever wound. On the left, she is inserting coils in the stator. On the right, she operates the winding machine, laying wire in carefully taped fingertips, maintaining the proper tension.

● James W. Merrill, carpenter's mate, third class, USN, is somewere in the South Pacific. His wife, Evelyn Merrill, is doing her bit on the home front.

Like many others today, the Merrill family is 100 per cent in the war. James Merrill had been employed at the Pope and Talbot Lumber Company mill in St. Helens, Ore., before joining the navy, and it was not long after his leaving that Evelyn sought some way to serve on her own.

Mrs. Merrill joined the St. Helens Pulp and Paper Company crew in the general maintenance department, and after two weeks she was transferred to the electric shop. Here she started to wind coils, and within a few weeks had mastered what many men have taken a year or more to learn.

C. V. Smith, superintendent in charge, is high in his praise of Mrs. Merrill's work. She has shown a curiosity which has carried her along rapidly in her learning so that she is now able to take a motor in need of repair, tear it down, rewind it and connect it up ready to be put back into use. Winding a motor presents plenty of problems, but the fact that Mrs. Merrill is able to use a motor diagram and, by means of it, successfully hook up the coils after winding, impresses the male members of the electrical crew plenty. All kinds and sizes of motors are wound in the electric shop, from fractional horsepower up to 50 hp., and both direct and alternating current.

Mrs. Merrill studies as she works. Bill Day, motor winder and repair man, and Mr. Smith, are giving her all the assistance possible and the shop has a small technical library on various subjects in the theory and practice of electricty which she uses constantly.

When asked how she felt about her job, Evelyn Merrill showed a sound sense of responsibility for the work she was doing and a recognition of its place in the war effort. The uniform which she was wearing may not have been of a military cut, but she wears it with all the pride of any WAAC or WAVE. But she hasn't lost sight of the home which the war took from her some six months ago, and her plans today are to get back to it. It appears she knows what she is working for.

"Women are on the spot in entering men's work," Mrs Merrill said. "We feel that we are out of position and are more or less afraid." She felt that the fact that women are found to be somewhat less accident prone and are able to learn quickly is due to the fact that they do feel that they are on the spot and have to make good.

One of the illustrations shows Mrs. Merrill using a coil winder which was made in the shops at St. Helens Pulp & Paper Company. It is built around a ¾ hp. variable speed electric motor and a transmission from a 4-cylinder Henderson motorcycle. This combination gives the device adequate control on the speed at which the winding jig revolves. A foot pedal controls the operation of the machine and a counter from a paper bag machine measures the number of turns on the particular coil being wound. Hands are entirely free to feed the wire into the coal. Chain drive conduct the power to the winding mechanism. Mrs. Merrill wound a few coils for a large motor, in for repair, to demonstrate the operation of the winder. Mrs. Merrill handles this work alone.

Papermaker's Son Is Air Force Hero

—Royal Canadian Air Force Photo

FLIGHT LIEUT. HARRY W. DONKERSLEY, Canadian Air Force hero and son of Powell River Company papermaker, is shown here leaving Buckingham Palace in London where he was honored by the King for his exploits.

● Powell River's outstanding hero in this war is Flight Lieutenant Harry W. Donkersley, D.F.C. and bar, who returned to the British Columbia paper town recently after many adventures with the Royal Canadian Air Force in the Mediterranean, and on other fronts. He won the Distinguished Flying Cross during attacks on enemy shipping in North Africa.

He is the son of Harry Donkersley, papermaker for Powell River Company, and Mrs. Donkersley.

Canada Sends "Token" Shipment Of Logs to Puget Sound Mills

Release of 15,000,000 feet of hemlock and balsam pulp logs is first to cross line since Canadian embargo went into effect September 1, 1942 ▪ ▪ ▪ Deliveries will be made during 90-day period ▪ ▪ ▪ Timber Controller says he looks forward to end of government restrictions ▪ ▪ ▪ Log production lag brings price boost.

FIFTEEN million feet of hemlock and balsam pulp logs have been released in British Columbia by the Canadian Timber Control for use of Puget Sound mills. While additional logs may be exported from British Columbia during the balance of the year, the situation is definitely uncertain as the province's log supply is still critical.

Under ordinary circumstances, according to Assistant Controller D. D. Rosenberry at Vancouver, export of any quantity of pulp logs at this time would not be justified owing to the shortage being experienced by most of British Columbia's pulp mills as well as by the lumber industry. However, he said, Canada has been anxious to co-operate with the United States wherever possible and it was decided to move 15,000,000 feet as a token of good intentions. These were to be delivered during a 90-day period beginning in early July. There is no prospect or plan at present for any further releases.

Announcement that his promise made earlier in the year would be implemented at once was made in Vancouver by Timber Controller A. H. Williamson during a visit to the coast June 15. About six months previously Mr. Williamson had told a gathering of lumbermen in Vancouver that Canada had agreed, in the spirit of the Hyde Park Agreement, to supply some pulp logs to the United States. The estimate at that time was that about five or six million feet would be exported monthly, but declining production in British Columbia woods and depletion of inventory made it impossible for that pledge to be executed until now.

Even now the timber industry in British Columbia might have found it difficult to supply even the moderate order of 15,000,000 feet of pulp logs if the Timber Control had not succeeded in making a deal with British Columbia pulp and paper mill operators whereby Pacific Mills, Ltd., would replenish stocks with logs from its own holdings.

Pacific Mills, Ltd., operating at Ocean Falls, has for some time been in a better log supply position than other operators by reason of several factors. One is that the company has been obliged, owing to its geographical location, to make extensive advance purchases of logs so as to maintain a substantial inventory. The mill is the farthest north in British Columbia and logs cannot be towed during the winter months in the unprotected waters through which most of its rafts must be transported. For that reason the company has always made it a policy of maintaining as big a reserve as possible to guard against the threat of shutdown due to log shortage.

Pacific Mills logs will not be exported. They will merely be moved south to replace the logs from Vancouver Island operators that would normally go to other pulp and paper mills. The export logs will be shipped by companies advantageously located for handling the business on a pro rata basis determined by their share of the export done in 1942.

A. H. WILLIAMSON, Timber Controller in the Dominion of Canada, who authorized "token" shipment of 15,000,000 feet of pulp logs to Puget Sound mills.

The release to the United States mills is the first to be made since September 1, 1942, when an embargo on British Columbia log exports went into effect. Previously, pulpwood log exports had been crossing the line at a rate of about 150,000,000 feet a year.

Williamson Statement

● In making the announcement Mr. Williamson said:

"Within the next two weeks we hope to work out permits for the export of 15,000,000 feet of hemlock and balsam pulp logs from crown grant lands on a pro rata basis. This will seriously denude the market in the Vancouver area, and I am therefore happy to be able to tell you that Pacific Mills, Ltd., have agreed to replace this quantity from their inventory and production in the north. We are most grateful to Pacific Mills, Ltd., for this co-operation and assistance."

The 15,000,000 feet order will be distributed among several Vancouver Island logging organizations, notably Malahat Logging Company, Canadian Forest Products, Ltd., Elk River Timber Company, Lake Logging Company and Comox Logging & Railway Company.

As a further incentive to log production Mr. Williamson announced some new price concessions.

"The labor situation is the governing factor in production, and there is very little that can be done to overcome this difficulty," he said. "In view of this I have grave doubts as to whether price increases will improve either log or lumber production. Therefore I have grave misgivings as to the benefit of the war effort that can be obtained by making any change at this time.

"Nevertheless, we have very carefully analyzed the financial statements of numerous companies and it is quite evident that some producers are today operating at a loss. I think it should be fair to say that

there is nothing the Timber Control can do that will make it possible for everyone to stay in business and make a profit, and I am sure that there will be casualties among the loggers and sawmillers which I very greatly regret, recognizing the increased costs due largely to reduced production and to the labor supply problem."

Prices Up $1 Per 1000

All log prices have been increased in British Columbia $1 per thousand feet, effective June 15. Log buying sawmills will get this increase back by subsidy to an amount sufficient to maintain standard profits in exactly the same way as was arranged with respect to the advance granted last January. There will be no rebate, however, for pulp and paper mills because of the different status of their timber leases.

Mr. Williamson says that it will be his policy to get the timber business back into normal channels as soon as possible, although he does not know when that may be.

"I would like it to be thoroughly understood that control for control's sake is very far removed from our minds," he says. "We are all looking forward to the day when we can get back to our own business and have your business in the hands of the owners without interference, where it belongs."

Logging operators polled by PACIFIC PULP & PAPER INDUSTRY expressed the opinion that the new price schedule would stimulate production in some areas by enabling some marginal camps to continue cutting. Without the new price concessions some of these operations might have been forced to suspend operations because they were either losing money or working on such a narrow margin that continued operation was an unwarranted hazard.

Production Statistics

Statistics prepared by the British Columbia forest service indicate how production of pulp logs has declined during the past year, almost entirely due to the manpower shortage in the logging camps.

Figures for British Columbia's log production in May, just issued, show that production of all species was 270,830,000 feet, compared with 338,253,000 feet a year ago. Of this total 50,855,057 feet was hemlock.

For the first five months of this year total production of all species was 892,857,999 feet, compared with 1,272,000,000 feet in the corresponding period of 1942.

During the first four months of this year 115,451,480 feet of hemlock and 27,356,160 feet of balsam were scaled, compared with 163,409,580 feet of hemlock and 32,599,266 feet of balsam in the corresponding period in 1942; 200,670,958 feet of hemlock and 36,672,631 feet of balsam in the corresponding period of 1941, and 209, 193,132 feet of hemlock and 41,200,673 feet of balsam in the corresponding period in 1940.

Coos Bay Goes Over the Top

COOS BAY PULP CORPORATION, AT EMPIRE, ORE., WENT OVER THE TOP RECENTLY in its war bond sales drive. This photograph was taken during the ceremonial presentation of the Treasury Department Ten Per Cent flag to the mill.

In the picture, left to right, are: JAMES D. FRASER, General Superintendent; FRANK PUTNAM, Machine Tender; LESLIE SPROGIS, Machinist, President of Pulp, Sulphite and Paper Mill Workers local and Chairman of the Bond Sales Committee; LESTER CROFF, Sawyer; VERN THOMAS, Fireman; C. WYLIE SMITH, Vice President and General Manager, and GEORGE F. BLESSING, Assistant Manager and Accountant.

A U. S. Navy Guard of Honor from the Navy's Coos Bay Section Base participated in the ceremonies and raised the flag.

Crown Zellerbach Service Pin Awards

Pins Given 122 At Camas Mill

"ON the occasion of presenting service pins to 122 men and women of Crown Willamette Paper Company, division of Crown Zellerbach Corporation," to quote from the program, a Service Pin banquet was held in Camas, Wash., in Nora Self Hall on June 29.

W. D. Welsh, Public Relations, Crown Zellerbach Corporation, in his address, "And Don't Forget to Write," pointed out just how important it is for those at home to work constantly at keeping up the morale of the boys on the fighting fronts. He read from several letters of the hundreds which are received from Crown Zellerbach boys on all battle fronts. Crown Zellerbach Corporation has for some time been making blankets from used paper machine felts and sending them to areas which have felt the direct effect of the war. He also read letters from persons in much-bombed Britain who had received these blankets.

Mr. Welsh closed the address saying, "If these boys can do their work better because of letters; if English women who live in caves because their homes were destroyed by bombs can take time out to write letters of appreciation for gifts of American papermill blankets; if our own kids can write from the foxholes, the jungles, the desert, ice-capped islands and from ships at sea, and write uncomplainingly of the job which they have to do, surely we have the time to frequently write to some boy in the service—whether it be a relative, a friend, a former working associate —or to a lonesome neighbor boy from up some town street or country lane."

Frank H. Youngman, vice president, presented Charles McKever, Lexie Smith and John Lewthwaite with sections cut from a 45-year-old hemlock tree felled on company timber holdings in Clatsop County, Ore. The work history of each man was printed on his tree section.

Louis Bloch, chairman of the board, presented the service pins with the remark that the pin is a badge of honor. Mr. Bloch will, himself, receive the 50-year service pin award in March of 1944. He began his long history with the organization in 1894 as a laborer in a finishing room at 7½ cents per hour.

G. W. Charters, assistant resident manager, gave the opening remarks and a letter from Mr. J. E. Hanny, resident manager, who was on an eastern trip, was read.

SERVICE PIN AWARDS

Forty-five Years
John B. Lewthwaite, Charles McKever and Lexie E. Smith.

Forty Years
Claude H. Smith.

Thirty-five Years
Arthur O. Pieritz.

Thirty Years
Wilford H. Faler, Benjamin H. Reed and F. Frank Sullivan.

Twenty-five Years
Robert J. Bills, William J. Bobbit, *Joseph R. Frum, George W. Johnson, Ernest Montgomery, Ludwig G. Nielsen, Mary C. Pierce, Florence E. Rancore, William H. Rancore and Ray E. West.

Twenty Years
Braz E. Barnett, Guy W. Cowan, Owen Farnan, Charles C. Francis, Isaac Helme, Christine A. Kropp, George W. Lovett, Jacob D. Maxwell, John A. Neely, Paul Rainey, Edward Webberley and John G. White.

Fifteen Years
Clifford R. Arnold, *Keith M. Aslin, Homer R. Baldwin, Richard H. Cavitt, George H. Clark, Glen G. Cowan, Gerald F. Craig, Homer H. Croswell, George A. Decker, Henry E. Foster, James O. Foster, Melvin G. Johnson, Leona B. Kreshler, Robert Madison, Clyde B. Mays, Emmett R. Mills, Ward D. Montgomery, Edgar H. Ostenson, Rufus B. Tobey, Albert E. Warren and William G. Webb.

Ten Years
Wilbur L. Carter, Charles B. Clemans, Cecil C. Conner, Ronald H. Craig, Bernard Dorman, John C. Frosh, Robert J. Fuller, Frank W. Gross, Ralph E. Hancock, Herman P. Herndon, Robinson Hetherington, Arvia B. Hughes, James H. Hull, Robert J. Moir, Aaron E. Martin, Clarence Ostenson, Mabel B. Ostenson, Ray Pierce, Tony Piller, Wallace H. Ramsey, Emil Richey, Lloyd E. Sherrell, Ralph D. Sievers, Elva M. Taylor, Guy W. Tennant, James P. Waugh, Edward H. White, William J. Winters and Lillian V. Yoes.

Five Years
Harry J. Beauregard, June N. Cadwallader, Lottie E. Croswell, Jennie A. Edgley, Carl J. Genz, Irwin C. Heizer, George L. Henderson, Virgil R. Hughes, Fred E. Hungate, Ella Irene Ingram, Wanona Lea, Pearl G. Merritt, Margaret R. Mimnaugh, John L. Monaghan, Clyde Morse, Eva May Palmer, Ruth S. Schafer, Rzella N. Scott, Clarence B. Short, Eleanor Sobaski, Louisa R. Stacey, David L. Strickler, John N. Valentine and Ernest Webberley.

PINS FOR EMPLOYEES IN SERVICE

Twenty Years
Charles Ray Brown, Army.

Fifteen Years
Velton A. Davis, Navy, Elra E. Green, Army, Ralph A. Wadsworth, Navy, Carl J. Wey, Army.

Ten Years
J. Everett Atkins, Navy, Byron Bancke, Navy, Eugene R. Brundage, Army, Robert C. Hitchcock, Navy, Hans E. Johnson, Navy, Dale Hughes, Navy, Donald M. Platt, Army, Walter L. Rich, Army, Philip H. Vernie, Navy.

Five Years
Kipling P. Aslin, Army, James W. Holmes, Navy, Edward T. Parker, Jr., Army, Louis Pierson, Coast Guard.

Presentations At West Linn Club

● Louis Bloch, chairman of the board, Crown Zellerbach Corporation, addressed the annual meeting of the Thirty-five Year Club of Crown Zellerbach emplpoyees of the West Linn, Ore., plant on the evening of June 28.

"35 to 50 years of service reflects a very satisfactory existence in any one organization," Mr. Bloch said. "All of you may feel that you have made a worthwhile contribution to the community and to your organization."

Speaking of the values of work, Mr. Bloch stated that frequently persons of wealth cannot know life and its problems and must lead a narrow existence. They cannot experience the emotions, the hardships and trials of winning their own way in the world.

W. D. "Billy" Welsh, public relations department of Crown Zellerbach Corporation, presented Clarence Bruner, resident manager of the West Linn plant, with a section cut from a 45-year old hemlock cut from Crown timberlands in Clatsop County, Ore., recording his work record. This tree was a seedling when Mr. Bruner started to work for the organization in 1898.

Mr. Welsh made the point that the total wages paid the four men of 45 years service averaged 42 cents per hour. He compared that with the beginning wage today of £2½ cents per hour.

Charles Croner, chairman of the "35-year Club" conducted the business meeting at which Hugh Mathe-

JUNE 28-29 WERE EVENTFUL DAYS AT THE CROWN ZELLERBACH MILLS at Camas, Wash., and West Linn, Ore., with two service pin banquets and the unveiling of a new Honor Roll Board at Camas.

●

LOUIS BLOCH, San Francisco, Chairman of the Board of Crown Zellerbach Corporation, presents a five-year service pin to LOUIS PIERSON, now a U. S. Coast Guardsman on leave from the Camas, Wash., plant as Mrs. PIERSON looks on. Mr. BLOCH and Mr. W. D. WELSH from the San Francisco headquarters attended the Service Pin Banquet for employes at Camas on June 29.

●

MR. BLOCH with the 45-year award winners at Camas. Left to right: JOHN B. LEWTHWAITE, MR. BLOCH, LEXIE SMITH and CHARLES McKEVER.

●

Other Camas award winners, left to right: CLAUDE SMITH, 40 years; ARTHUR PIERITZ, 35 years, and FRANK SULLIVAN, BENJAMIN REED and WILFORD FALER, 30 years.

●

MR. BLOCH and MR. WELSH also attended a dinner meeting of the WEST LINN 35-YEAR CLUB at the Chamber of Commerce rooms in Oregon City, Ore., on the evening of June 28. C. E. BRUNER, resident manager at West Linn, Ore., received a souvenir hemlock section for 45 years service. These men received 35, 40 and 45-year pins. They are, left to right: F. D. SIMMONS, IVAN RITTENHOUSE, R. A. GRAY, PAUL NAUMAUN, J. A. RAYLE, H. D. MacLARTY, Mr. BRUNER and RUBE CONFER.

●

The new Honor Roll Board for Camas men on leave in the armed services was dedicated by Mr. BLOCH, who stands on the platform, at ceremonies on noon of June 29. He said: "This is but a small token of gratitude for the employes in service . . . we wish them Godspeed and may they return safely." Two Portland air base soldiers, TOM LUNA and MORRIS SCHWEITZER, have just drawn back the veils.

son was elected chairman for 1943-44 and F. A. Hammerle was re-elected secretary. F. T. Griffith of the Portland General Electric Company and guest at the meeting spoke briefly.

Service pin awards were made to Paul Naumaun, Hugh D. McLarty, F. D. Simmons, R. A. Gay and J. A. Rayl for 35 years; to Claude and Ivan Rittenhouse and Rube Confer for 40 years, and to Mr. Bruner for 45 years service.

Honor Roll Board Dedicated At Camas

A new attractive Honor Roll Board for men of the Camas, Wash., mill of Crown Zellerbach Corporation was unveiled in ceremonies at noon June 29, attended by many Camas and Washougal residents besides employes of the mill. The board bears the names of 534 men from the mill who joined up.

Louis Bloch, chairman of the board, Crown Zellerbach Corp., San Francisco, said in the dedicatory address:

"We realize the erection of this board is but a small token of the gratitude shown by this organization for the employes now in the service of their country. We wish them Godspeed and that they may return soon and safely to their homes."

George Charters, assistant resident manager of the Camas mill said, "We want to assure you that our mill organization has a sincere and personal interest in the welfare of each individual whose name appears on this Board now, and those whose names will be placed on the Board in the future."

In another talk, William B. Welsh, public relations department, Crown Zellerbach Corp., San Francisco, said:

"These are not merely names alone we dedicate and honor today—but rather 534 valiant pages of human history touching the very hearts and hearthstones of this community.

"We are proud of these men and women. But pride alone is as fickle as the cymbal's sound unless we at home measure up, at least in part, to their sacrifices and their devotion. Nothing we may say here today will be worthy of these sacrifices and this devotion unless we here resolve and go from here determined to make it so."

Wallace G. McGoech, chaplain of the army air base, Portland, delivered the invocation. Capt. Sidney Robinson, personnel officer, also of the Portland base, spoke briefly reminding his listeners of the importance the men and women whose names appear on the board are playing in the world conflict.

Baruh Presented With 45-Year Pin

● J. Y. Baruh, vice president of Crown Zellerbach Corporation, Los Angeles, was presented with a 45-year service pin at a luncheon of C-Z executives and employes at the San Francisco Stock Exchange dining room on June 24. The meeting was presided over by Louis Bloch, chairman of the board, and the presentation was made by Mr. Baruh's nephew, J. D. Zellerbach, president of the corporation.

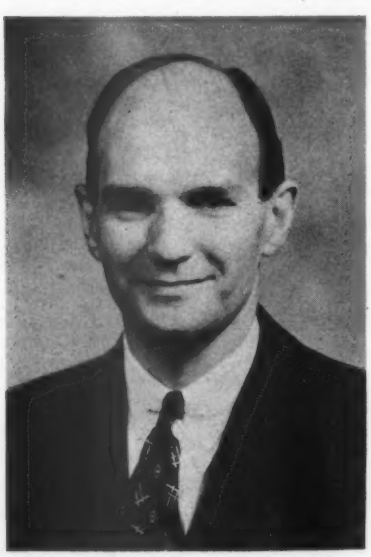
Mr. Baruh recalled that 40 years ago, in Los Angeles, he solicited paper orders during the day and returned to the warehouse at night to wrap up their orders for delivery the following day. Butcher paper was a big item in those days, he said, and the most successful salesman was the "early bird" who called on his butcher customers about 6 o'clock in the morning.

Men of the San Francisco division who received pins at the luncheon were: A. Van der Zwiep, 40 years; J. N. Mulkey and S. Sonnenberg, 35 years; J. C. McCrary and R. B. Dixon, 25 years, and Marion Marks, 20 years. Service records of the 27 guests totaled 700 years with Crown Zellerbach or predecessor companies.

New Managers at Vancouver And Los Angeles Mills

● Taylor Alexander has been transferred from the California-Oregon Paper Mills, division of Columbia River Paper Mills, at Los Angeles, to the Portland office of the Columbia River Paper Mills. In the new position, Mr. Alexander will be in charge of sales of paper and will be manager of the plant at nearby Vancouver, Wash.

Mr. Alexander was division manager and assistant secretary of the California Oregon Paper Mills. He has been with the Columbia River Paper Mills and Oregon Pulp & Paper Company for many years, working up through operations departments. Mr. Alexander has brought his family to Portland where they will make their home.



GEORGE R. MILLER, the new Office Manager of Columbia Paper Mills, Vancouver, Wash., who recently took over his new post.

Mr. George E. Miller has been appointed office manager of the Vancouver plant of Columbia River Paper Mills. He formerly spent his time between the Portland and San Francisco offices of the same company, doing general office management work. He will now spend all of his time at Vancouver. Mr. Miller has been with this organization since it took over Pacific North West Paper Mills as a division some four years ago and held the position of vice president and sales manager with that company.

Mr. Miller came west in 1935 from Minneapolis where he had been engaged in newspaper advertising work. The Miller home is in Portland and will remain there until after the war due to housing problems in Vancouver at the present time.

Succeeding Mr. Alexander as division manager and assistant secretary of the California Oregon Paper Mills, is J. K. Hays.

Becomes City Supervisor

Frank R. Elmer, head of the Elmer Paper Co., wholesale dealers in Sacramento, Calif., has been named as a member of the Sacramento Board of Supervisors to fill the unexpired term of the late Charles Alvord. Mr. Elmer for many years has been active in civic affairs at the state capital and is a director of the Sacramento Chamber of Commerce.

MRS. HERMAN HOEHNE, wife of the Pulp Mill Superintendent, Longview Fibre Company, Longview, Wash., and their son, MARK HOEHNE, who is training to be a weather officer in the U. S. Army Air Force at Pomona College, Pomona, Calif. They had a reunion in Portland recently.

First Gold Star For West Linn

John Karbonski of West Linn, Ore., is the first casualty of the war among former employees of the Crown Zellerbach mill of that city. Mr. Karbonski was employed in the grinders of Mill A since 1937 and was in an anti-aircraft unit prior to his death.

Little is known about his passing except that he died in the south Pacific theatre of war. A brother, Stanley, is with the army in Alaska.

Pacific Coast Men Honored At Superintendents Convention

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E. W. Tinker warns that ingenuity and technical skill must be exerted to produce pulp and paper wartime needs ' ' ' Niles Anderson is member of "younger triumvirate" now in top offices of national association ' ' ' G. A. Armbruster and Tom Beaune made life members.

• The 24th annual convention of the American Pulp & Paper Mill Superintendents Association was held in New York June 15-17.

Stanford G. Blankinship, head of the New York office of Port Royal Pulp & Paper Company, Ltd., was elected the new president, succeeding Grover Keeth, of Marathon Paper Mills, Rothschild, Wis., who completed eight years of service in offices of the organization. Raymond L. Barton, Michigan Paper Company, Plainwell, Mich., became first vice chairman.

Third top office of the association went to an ex-Pacific Coast man, Niles M. Anderson, who moved to Ontonagon, Mich., last March to take charge of operations at the Ontonagon Fibre Corporation after serving as sulphite superintendent in Bellingham, Ocean Falls and Vancouver, Wash., and recently as mill manager at the St. Regis Paper Company, Kraft Pulp Division, Tacoma. He was elected second vice president. Mrs. Anderson accompanied him to the New York meeting.

Other honors for westerners came when the board of trustees voted honorary life memberships in the APPMSA to G. J. Armbruster, general superintendent, Soundview Pulp Company, Everett, Wash., and Thomas H. Beaune, sulphite mill superintendent, Port Angeles, Wash., division, Fibreboard Products Inc.

Albert S. Quinn, vice president, Stebbins Engineering Corporation, Seattle, represented the Pacific Coast division of the Association at the convention. He and Mr. Anderson were among 23 officials of the organization who attended the trustees' meeting. Mr. Keeth, who presided, reported on the presentation of life memberships during the past year to W. A. Kelly, of Portland, Ore., representative of Waterbury Felt Company, and Mark Whitman, Marathon Paper Mills, Rothschild, Wis. Roy Kelly, of Marathon, who made the presentation to his brother at the recent joint Superintendents - TAPPI meeting in Portland, was also present as a trustee.

LIFE MEMBERSHIPS IN THE AMERICAN PULP AND PAPER MILL SUPERINTENDENTS ASSOCIATION were voted for two Pacific Coast men at the meeting of the Board of Trustees of the Association in New York on June 14.
The men thus honored were G. J. ARMBRUSTER (left), General Superintendent, Soundview Pulp Company, Everett, Wash., and THOMAS H. BEAUNE, Sulphite Mill Superintendent, Port Angeles, Wash., Division, Fibreboard Products Inc.

Members Now Total 875

• It was reported that the APPMSA has attained a high record with 875 members enrolled as of June. Affiliate companies now total 86. The trustees tentatively decided next year's convention would tentatively be in Chicago or Milwaukee after the bid of the Pacific Coast Division was withdrawn because of difficult travel conditions and the war emergency.

Other officers elected were Homer H. Latimer, Hamilton, O., Raymond F. Bennett, Pisgah Forest, N. C., and O. W. Messner, Montville, Con., third, fourth and fifth vice presidents, respectively; Robert L. Eminger, Miamisburg, O., secretary-treasurer, and George W. Craigie, field secretary.

Sidney D. Kirkpatrick, consultant for the chemical division of WPB, addressing the June 15 luncheon meeting, urged the association to give careful attention to legislation proposed by members of the senate military affairs committee to mobilize all technological resources—"human as well as material."

On that afternoon, E. W. Tinker, executive secretary, American Pulp & Paper Association, made an outstanding speech in which he said:

"Pulpwood inventories are declining at a rate exceeding 130,000 cords per month. As applied to the paper mill superintendents and the technologists available to the industry, a challenge is presented — a challenge requiring the abandonment of traditional furnishes and the use of every conceivable process and all of the ingenuity and technical skill available to produce that which the country requires."

20,000 Woodsmen Needed

He discussed the need of further use of secondary fibres. He said the most serious problem facing the industry would be solved if only 20,00 more woods workers were made available in the five major forest regions of the United States.

"I suppose this represents a swing shift in any of our good sized war production plants," said Mr. Tinker.

Mr. Anderson was a panel member in a discussion of pulpwood supply after Mr. Tinker's address.

The coating group panel discussion brought out predictions of a 50 per cent cut in starch production. It was said 80 per cent of Argentina's casein could be obtained if the WPB was persuaded to assist in this direction. Soya bean flour was said to be mixing well in coating material in many mills.

G. H. Suhs, Sorg Paper Company engineer, whose organization has a British Columbia mill, discussed power plant maintenance at the engineers' session.

At the banquet on the last night, U. S. Senator Ralph O. Brewster of Maine praised much that the administration has accomplished.

New WPB Advisory Committee Formed

• A paper distributors industry advisory committee has been added to the various business advisory committees cooperating with the War Production Board in Washington, D. C.

As a result of this new addition, two brothers are serving in advisory capacities to the WPB but on different committees.

Harold L. Zellerbach, executive vice president of Crown Zellerbach Corp. (Zellerbach Paper Company), is a member of the new committee. His brother, J. D. Zellerbach, president of Crown Zellerbach Corp., has served for many months on the advisory committee to the pulp and paper division of the WPB.

Charles W. Boyce, former secretary of the American Paper & Pulp Association, is government president officer of the distributors committee.

Olympic Peninsula Mills Doing Vital Work in Machine Shops

Operating gear parts for destroyers is example of kind of work which commercial shops are not equipped to do but which the mills gladly take on . . . A converted baling press breaks a bottleneck in production of steel flanges.

THE five pulp and paper mills on the Olympic Peninsula—two at Port Angeles and the others at Port Townsend, Hoquiam and Shelton, Wash.—are doing a cooperative job in producing and finishing vital mechanical parts for U. S. navy and cargo ships which has won high praise from the prime contractors.

The machine shops in these mills have done a tremendous variety of difficult, small parts for ships which the average commercial foundry, working on assembly line basis, was unable to do without disrupting its war production program.

The mill shops cannot, in general, compete on commercial items and it is not their intention to try to compete on these items. Where they are the most valuable is in producing special items which are made from detailed drawings or where there is a certain amount of development work required and firms producing routine commercial items are not interested in quoting.

A good example of this is valve operating gear made for the Seattle-Tacoma Shipbuilding Corporation. This gear required the assembling of over 400 different parts into 67 different assemblies. Some of the parts occurred only once to a ship which made the scheduling of the machine work difficult. There was a multitude of different materials required and approximately forty lengthy bills of materials had to be prepared and the material all purchased. There were 400 detailed drawings which had to be made up before the job could start. Few commercial shops would undertake work of this kind but the mills have undertaken it and have done a good job of it as the shipyards will testify.

A situation where the shops undertook a commercial item because of a shortage of this item is illustrated by the manufacturing of universal joints. A large shipyard in Seattle found itself in a bad position because it was unable to obtain universal joints in the quantities it required. It looked as though a number of ships might not be commissioned on time as eastern manufacturers could only promise a seven or eight months delivery. The Olympic peninsula mills undertook to manufacture these joints and within three weeks had started to deliver finished universal joints. Since that time they have manufactured several thousand universal joints for Seattle yards.

Baling Press Used

● Another instance was in the case of forged steel flanges. Some time ago there was an acute bottleneck in the flange industry and the pulp mills entered the flange manufacturing business by setting up an 800 ton baling press as a forging press and forging out steel flanges.

Meder Johnson, resident engineer for Rayonier at Port Angeles, has acted as coordinator, procurement officer and trouble shooter in directing the team work of these five mills.

Coordinator

MEDER JOHNSON, Resident Engineer at the Port Angeles, Wash., division of Rayonier Incorporated, is Coordinator and Procurement Director of all war work done at the five Rayonier and Crown Zellerbach mills on the Olympic Peninsula—in two mills at Port Angeles and one each in Hoquiam, Shelton and Port Townsend.

For the purpose of the machine shop war work five mills on the Olympic Peninsula (Rayonier Incorporated, Port Angeles; Crown Zellerbach Corporation, Port Angeles; Rayonier Incorporated, Shelton; Rayonier Incorporated, Hoquiam, and Crown Zellerbach Corporation, Port Townsend) operate as a single unit with Mr. Johnson acting as supervisor for all the work.

Products of the Shops

● Here are some of the products of the Olympic Peninsula mills:

Steering engine parts for Liberty ships.

Capstan parts for landing barges.

High pressure air fittings for gas ejector system on guns.

All types of flanges.

Gear blanks.

Sea water strainers for mine sweepers.

Universal joints for all types of ships.

Spring bearings for mine sweepers.

Valve operating gear for destroyers.

Propeller shaft bolts and couplings for auxiliary aircraft carriers.

Waterproof ventilators for destroyers.

Forged steel hawse pipe for mine sweepers.

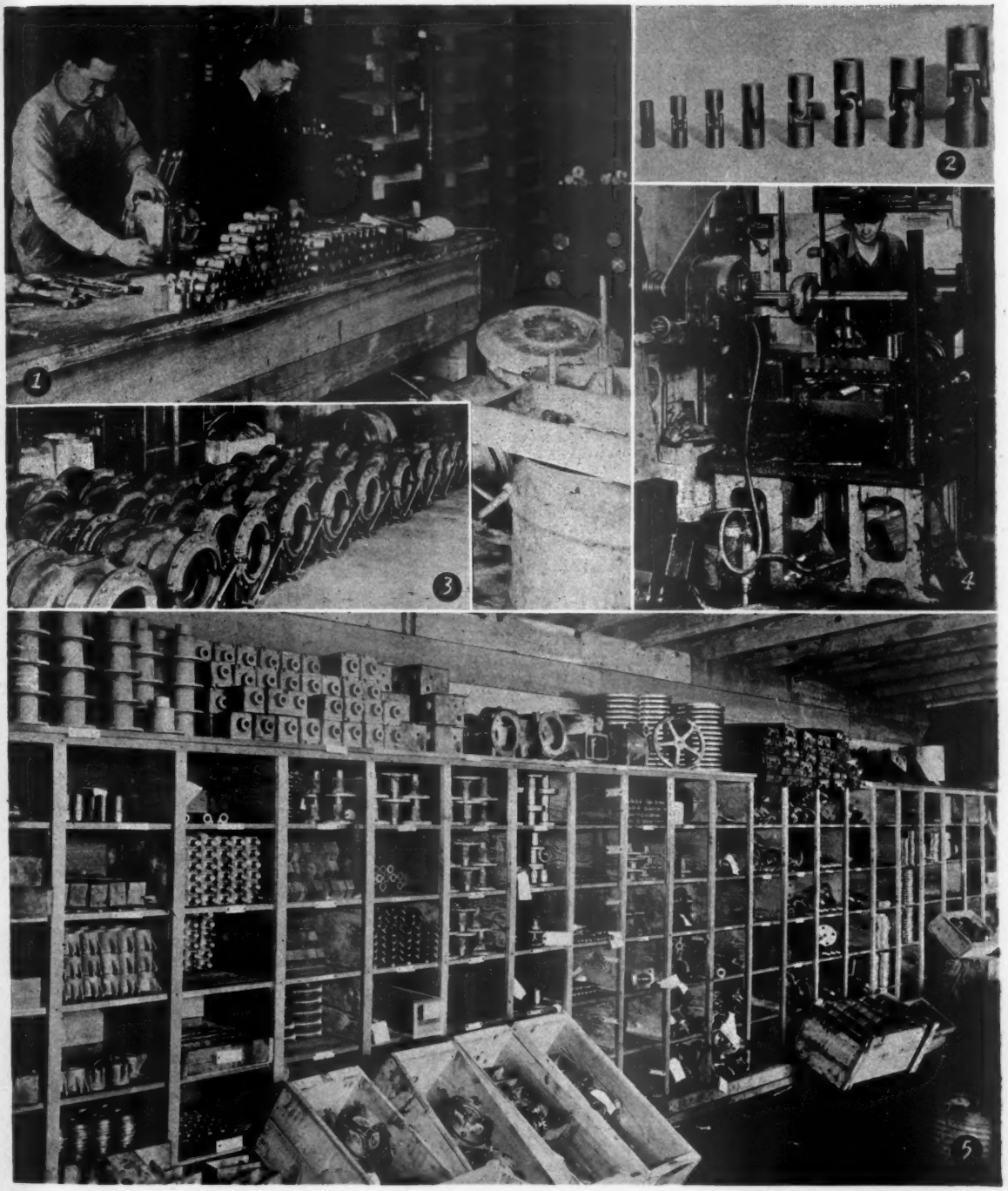
Collision chocks for Liberty ships.

Valve parts for oil tankers.

Engineers and mechanics in each of the mills have shown ingenuity in overcoming obstacles and devising home made jigs to do difficult jobs.

A home made milling machine, made at the Rayonier shop, is shown in one of the accompanying pictures. This was rigged up from an end mill to cut keyways in small shafts. A bracket was made to hold the shafts on the carriage cross feed and mill keyways by rotating the end mill in the lathe spindle.

To eliminate the slowness of spindle speed, a spindle assembly was made of a fairly large spindle mounted on two frictionless bearings which had seen long service on a pulp washer. The spindle was driven by a separate motor and



THE ENTHUSIASTIC WILLINGNESS OF MACHINE SHOPS IN THE OLYMPIC PENINSULA PULP AND PAPER MILLS to do a tremendous variety of work in producing small parts for U. S. Navy destroyers averted a serious bottleneck in the war effort. Big commercial shops were in no position to do this small, varied but important work.

(1) AL MILLIKEN (left) and LEO WILLIAMS in the machine shop of the Port Angeles division of Rayonier Incorporated. Mr. MILLIKEN is assembling safety valve casing gear for destroyers. At lower right is a waterproof ventilator made for Seattle-Tacoma shipyards, where many destroyers have been built with the help of the pulp and paper mills.

(2) Variety of universal joints made for ship operating valves.

(3) Spring bearings for mine sweepers, made at the Port Angeles newsprint mill of Crown Zellerbach Corporation.

(4) EVALD JOHNSON is operating a milling machine made at Rayonier's Port Angeles shop. Mill employes showed their ingenuity by rigging this up from an old end mill.

(5) This picture shows the great variety of valve operating parts for destroyers made at the mills. Just one of many of these parts go into the assembly of each ship. Many individual patterns and castings had to be made.

mounted on the opposite end of the ways.

Then, because they were losing time taking the setup in and out, the Rayonier men provided a suitable cross feed, independent of the lathe, so the keyways could be cut without using the lathe at all. They did this with a used sliding motor base and a gib installed to remove lost motion. A cast iron table was attached to otbain a short cross feed. This was mounted on an old cast iron base and the spindle assembly mounted in suitable position on top of an old coupling which was used as a spacer.

After adding power feed for the table, operation was so satisfactory that it was decided to revamp the entire machine and provide longer and heavier ways than the used sliding motor base and a mounting for the arbor which made it possible to raise and lower it to any position.

The entire machine is mounted in a large pan and a small automobile gear pump circulates cutting oil continuously.

At the Crown Zellerbach mill in Port Townsend, home made boring machines were built.

The Rayonier men in charge of this work at the Olympic Peninsula mills are: L. R. Wood, engineer, and Fred Linder, machine shop foreman, at Hoquiam; Jack Ellis, engineer, and W. F. McCann, master mechanic, at Shelton; Fred Dangerfield, master mechanic, at Port Angeles, and the Crown Zellerbach men are T. B. Hargreaves and L. E. Warwick, engineer and assistant, respectively, at Port Angeles, and D. J. Wollam, engineer, and A. J. Bogan, master mechanic, at Port Townsend.

Brinkley Discontinues Liaison Duties

● Now that the machine shop war work program of the Pacific Coast Association of Pulp & Paper Manufacturers is working smoothly and at steadily increasing tempo, James F. Brinkley, of Seattle, has discontinued his duties as Coordinator for the Association.

Mr. Brinkley will give fulltime to his own private business in Seattle. For the past fifteen months, Mr. Brinkley had made frequent tours of the 29 coast mills participating in the program, giving them valuable advice on machine shop practice and helping them in obtaining sub-contracts from shipbuilders and foundries for the manufacture and finishing of all kinds of vital parts for warships, Liberty ships and tankers.

He had a large part in obtaining $4,000,000 worth of work for the mills (done mostly at cost). While he served as Coordinator, the mills obtained more than 900,000 man-hours of work. The mills are now so well acquainted with prime contractors that they are expected to carry on without any assistance.

Hawley Employes Do It Again

THE 550 EMPLOYES OF THE HAWLEY PULP AND PAPER COMPANY AT OREGON CITY, ORE., "did it again" and bought $51,700 of war bonds in an intensive drive at the end of the Second War Loan campaign. Under the slogan, "Hawley Does It Again," these purchases, amounting to almost $100 per employe, were made in addition to the amounts already being purchased through payroll deductions.

Here are the employes who were instrumental in that fine record (left to right): BYRON MAINE, MRS. HARRY SIMONS, RAY FOSBERG, SR., MRS. HAZEL BERNARD. MRS. ERICKSON and MR. FERGUSON made a record number of solicitations in plant and office.

The Hawley Company announced that it had purchased $200,000 in bonds.

In the regular payroll deductions of employes' wages for bonds, about 11.8 per cent of the total payroll is going into Uncle Sam's war bonds.

New Flag and Flagpole Dedicated at Puget Sound

● Ceremonies dedicating a new flagpole and flag were held in front of the executive offices of the Puget Sound Pulp and Timber Company on Saturday morning, June 5. The flag was presented in the name of the Company by Erik Ekholm, general superintendent of the Bellingham plant. It was received for the members of Local 194, International Brotherhood of Pulp, Sulphite and Paper Mill workers, by Sydney Gibson, local secretary.

The new flag graces a painted seventy-five foot cedar pole which is located to the left of the office entrance on Laurel Street.

Joins Marines Auxiliary

The Marines have landed, and captured one of the fairest young ladies of the San Francisco paper industry. Miss Agnes Weise, comptometer operator in the billing department of Blake, Moffitt & Towne, has enlisted in the Women's Reserve of the U. S. Marine Corps, and gone to the naval training station in the Bronx, New York City.

Bob Baum Presents Prize Paper Before PASC

● First of the dinner meetings to be held during the fiscal year beginning in May was the get-together of nearly fifty members of Papermakers & Associates of Southern California, in Rosslyn hotel, Los Angeles, on the evening of June 17. Highlighting the occasion was the re-reading of the prize-winning address of Robert A. Baum, assistant chief chemist, Fernstrom Paper Mills, Pomona, Calif., entitled "The Effect of Alum Floc on the Strength Characteristics of Sulphite Pulp," which had been presented at the March meeting of the Pacific Coast section of TAPPI in Portland, Ore. The address was read by the author, who was the recipient of the Shibley Award, presented by H. A. Des Marais, on behalf of the executive committee of the TAPPI group.

Another interesting feature of the program was the showing of the motion picture film "The World at War."

Vice Chairman W. T. Tillotson, who was one of the charter members, presented his resignation and was made an honorary life member by unanimous vote, in recognition of his loyal and active work in bringing the association to its present influential status. Frank H. Wheelock, board mill manager, Vernon division, Fibreboard Products Inc., was appointed by Chairman W. A. Kinney, acting for the executive committee, to finish Mr. Tillotson's term.

FRANK H. WHEELOCK, Board Mill Manager, Vernon Division, Fibreboard Products Inc., who was appointed Vice Chairman of Papermakers & Associates of Southern California at the June 17 meeting in Los Angeles.

Those present included:

Harry Lilburn, V. P. Cole and **A. Hatch,** of California-Oregon Paper Mills; **Charles Frampton, William C. Zeitz, E. G. Swanberg** and **R. A. Baum,** of Fernstrom Paper Mills, Inc.; **Bruce F. Brown, Frank H. Wheelock, Bruce F. Brown, Jr.,** and **C. E. Eberhard,** of Fibreboard Products Inc.;

Robert E. Cooper, Stanley Peterson, Frank E. Dilley, J. J. Erchul, W. Belleman, Otto Sass, S. J. Knowles, J. Van Ounsem, Glen Phillips, Roy Culp, E. Shaughnessy, Russell J. La Narz, R. H. Maxwell, Elmer A. Lemire, Grover C. Brown, Henry B. Will, A. Eilersgaard, W. A. Kinney, William A. Moore, William J. Krodel, Carl H. Greve and **William Sheehan,** of The Pioneer Division—Flintkote Company;

K. H. Bearss and **C. W. Kyle,** of Philadelphia Quartz Company; **George M. Cunningham,** of National Oil Products Company; **J. E. Hartford,** of U. S. Gypsum Company; **F. L. Mark,** of Western Asphalt Association; **L. I. Ramsey,** of Adhesive Products, Inc.;

A. M. Turner, of Schumacher Wallboard Company; **H. A. Des Marais,** of General Dyestuff Corporation; **William R. Monette,** of The Dicalite Company, and **Herman Berg,** of Bulkley Dunton Pulp Company.

J. Van Ounsem is secretary-treasurer. The organization holds dinner meetings every other month and additional programs of outstanding interest are in the making for future gatherings.

Hillier Joins Coos Bay Staff

● Harold Hillier recently joined the Coos Bay Pulp Corporation at Empire, Ore., as technical director. He came to this organization from the parent company, the Scott Paper Company of Chester, Pa.

After securing a degree in Chemical Engineering at Syracuse University in 1938, Mr. Hillier spent four years prior to his coming West in research work for the Scott Paper Company.

Mrs. Hillier and their two children accompanied him to the new home in the West.

Powell River Man Opens Ottawa Office

● Ralph Smith, for the past six years representative of the British Columbia Lumber & Shingle Manufacturers Assocaiton in Australia, has been appointed as special representative at Ottawa for Powell River Company, Powell River, B. C.

Mr. Smith left Vancouver to assume his new duties June 3. It is understood that his appointment is in line with the big west coast pulp and paper company's policy gradually to extend its field of activity. Entrance into the sulphite pulp field, the experiment in logging waste utilization on Vancouver Island, government war contracts and other departures from the original sphere of newsprint manufacturing are all indicative of the trend.

Mr. Smith, a University of Toronto graduate, started his career in the Canadian and Ontario forest services and later served in forest industries in British Columbia, in timber crusing, logging and sawmills.

He returned from Australia a few months ago by bomber plane when market and transport conditions made it necessary to close the office "down under."

While in the south Pacific his territory included New Zealand and the Pacific islands as well as Australia, whose government he also advised on forest affairs.

Japs May Cut Wood For Eastern Mills

● Japanese in the ten western War Relocation Camps are available for employment in cutting pulpwood anywhere in the United States except most of Washington, Oregon, California and part of Arizona, according to a recent communication from E. W. Tinker, executive secretary of the American Paper & Pulp Association. Some are experienced woodsmen.

Employes may be recruited through the Relocation Camps or Relocation offices in the eastern cities.

Mr. Tinker is providing pulp and paper manufacturers with information on how to obtain Germans and Italians from War Prisoners Camps for employment cutting pulpwood.

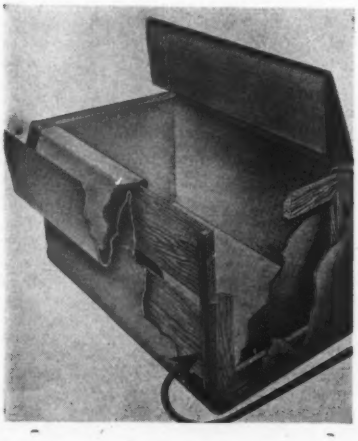
Kraft "Fruit Cradle" Developed By California Container Corporation

Using new packing methods and wooden frame, western concern creates an apple box that not only relieves wartime wood shortage but proves superior to old-fashioned containers » » » efficiency keynotes manufacturing methods.

FROM the record of its performance during the few years of its existence, the paper apple box — called "fruit cradle" by its designers, California Container Corporation—evidently has come to stay. It has proved its utility and economy under every conditions of packing, shipping, storing and merchandising; and, since Pearl Harbor, the paper box has contributed to the war effort through the saving of wood so greatly needed in military operations. The importance of this saving was recently emphasized by the request of the War Production Board for the replacement of at least twenty-five per cent of wood box requirements.

However, it was the wood-saving factor that prompted initial experimentation which led to the present design of the paper apple box. While the rigidity of wood is essential in a fruit container, which frequently is subjected to severe handling during shipment, it has been found that a wood superstructure, built of low quality spruce, white pine or hemlock, furnishes ample strength, although requiring only a small percentage of the quantity of material used in the all-wood box.

A further reason for the use of a wood superstructure is that apples, being perishable and inclined to shrink, frequently are stacked in piles that are eight- to twelve-box high, and in rooms having a humidity condition of between 85 to 90. Excessive moisture tends to break down the rigidity of paper, whereas by the use of a wood superstructure each box is strong enough to support itself.



DRAWING OF "FRUIT CRADLE." The arrow points to the reinforced wood frame construction. In the development of this apple box, California Container Corporation, Emeryville, Calif., embodied the principal of skyscraper construction. The result: Strength and lightness in weight.

STREAMLINING THE BULGE. This photograph shows a "Fruit Cradle" made by California Container Corporation, Emeryville, Calif. Instead of the old conventional bulge on top, this apple box divides the bulge in two, and fruit is cradled as though held between the palms of both hands.

Slats of veneer on the sides of the wood frame provide the necessary rigidity, yet give sufficient resiliency to hold the fruit tightly without too much pressure. These slats, having come from a fall-down quality of wood that ordinarily is burned or otherwise destroyed, may be discolored or possess knot holes without affecting the appearance of the box, inasmuch as the wood superstructure is entirely concealed between the double walls of the paper container.

Advantage Over Wood

● Another important advantage cited by the manufacturers is that the perfectly level top, after packing, permits stacking with the labels reading straight up and down, whereas wooden apple boxes must be stacked on their sides, due to the bulge in the top, thus making it necessary to turn one's head sideways when reading the label. Inasmuch as some apple packers take great pride in the appearance of their labels, many of which are colorful and expensive to produce, the necessity of having to stack wooden boxes sideways is regarded as a merchandising handicap.

Paper fruit boxes, stacked with the tops up, enable fruit packers and distributors to get maximum merchandising value from the labels. Furthermore, paper containers in the retail stores make a much neater display than is possible with wooden boxes, and paper box makers naturally are stressing this point.

In the paper box the bulge in the contour of the upper layer of fruit is cradled in the **under** side of the double-top covering. This top, divided down the middle, is formed by turning under each half-section, thus forming a springy surface or cushion into which the fruit may press with minimum damage to the fruit, and without creating a bulge on the outer side of the cover. This accounts for the adoption of the name "fruit cradle"—the fruit is cradled as though it were held between the palms of both hands. By this cradle-like action, packers and retailers are said to be receiving more money per box, due to the elimination of bruised and soiled fruit.

Although the increasing shortage and higher cost of box shook indicated the possibility of successfully developing a substitute for the wood apple box, there were other conditions which had to be cleared before a paper box could be developed that would be acceptable to the apple growing industry. Like any new products, a substitute apple box not only had to give all the customary service of the long-used wooden container, but actually had to provide certain additional advantages, even aside from that of lower cost. This cost, by the way, is estimated by paper box manufacturers to be about five cents per box less than that of the wood box, amounting to approximately $40 per carload of apples.

Temperature Tests

● Aware of these conditions, California Container Corporation joined its own experiments with those being conducted by the United States Department of Agriculture. Numerous tests were made, using Department of Agriculture equipment, one of the most important being the effort to achieve the proper temperature within the paper box when packed with fruit. Apples need to "breathe" and condensation of moisture must be dissipated, otherwise the fruit will soon decay.

Temperature thermometers were injected directly into the fruit and readings were taken every two hours. As usual, the apples were wrapped in waxed paper — which naturally has a tendency to reduce ventilation—and other methods customarily used in packing apples in wood boxes were simulated.

It was discovered that the temperature and humidity differences were inconsequential, despite the fact that the wooden box seemed to have an advantage in this respect because of the openings between the slats in its sides. The findings were encouraging to the paper men, needless to say.

Another favorable result, neither planned nor even anticipated, came up for attention. In the fall of 1937 a Yakima, Wash., fruit firm packed some Jonathan apples in paper boxes, placed them in a warehouse, and found them to be in excellent condition one year later. Inasmuch as no disposal order was left with the warehouseman, the apples were allowed to remain in storage another year. They were then reexamined with a view to disposal, and many apples were found to be still in a marketable condition. It was a convincing experience.

At present, most if not all packing sheds are equipped for handling only wooden containers, and doubtless will so remain for the duration of the war. It has been necessary, therefore, to produce paper boxes which can be readily handled by this equipment, and which will store in freight cars in exactly the same manner as do the wooden apple boxes. This has been accomplished by making a slight change in the conveyor equipment. Paper box dimensions and the cubic displacement are the same as those of the wooden box. The box top is closed for shipping by nailing a thin wooden strip across both ends, using four nails in each strip.

Manufacturing Process

● The manufacture of corrugated paper board boxes, as carried on at the plant of Western Container Company, a branch of the California Corporation, is an example of modern, stream-lined efficiency. Actually, there are only three operations in these production, printing and fastening of these paperboard boxes.

In the first operation, liner board is formed and sheets are fabricated to the correct size, with depth scores, from three rolls of kraft paper of varying weight, according to requirements. This huge unit, a Hooper, is almost a city-block long and takes rolls of paper 66 inches wide.

The next operation is that of slotting, scoring of length and width dimensions, and printing, which are also performed on a Hooper machine.

In the third operation, a Bliss semi-automatic fastener tacks the box corners or stitches with metal fasteners—and the box is ready for delivery, knocked down to a flat condition.

Western Container Company is located at 4634 East Marginal Way, Seattle, and has a capacity of approximately 6,000 boxes an hour. The firm serves customers in Washington, Oregon, Idaho and Montana. Besides apple boxes and the regular run of corrugated paper boxes, the plant makes tar barrels of corrugated board which are also being used to replace wood barrels, and a thirty-dozen egg box of paper board that does not require staples and many be set up on any egg ranch. The firm also has developed several styles of cheese boxes which are said to be rapidly gaining popularity.

William V. Roberts is sales manager and merchandising engineer of Western Container Company, and Matt Muncies superintendent. The parent company headquarters is at Emeryville, Calif., and there is another plant in Los Angeles. Together, the three large plants serve a trade territory which embraces the entire Pacific Coast area. Wil Evans is vice-president and general manager.

Fruit Industry Says "Good Luck" to Paperboard Industry -- Predicts Success

● Inquiries by PACIFIC PULP & PAPER INDUSTRY among leading operators in the fruit industries of the Pacific Coast reveal that more paperboard boxes are being used this year than ever before, especially for specialty varieties of fruit, such as the Delicious apples.

These operators, however, cautioned that they still regard the paperboard box devolpment as experimental although certain to be eventually successful—in wartime or peace time.

The chief obstacle most of these paperboard products have to overcome is that the fruit shipping points have conveyors and handling and set-up equipment suitable mainly for only wooden boxes.

"There have been a number of paperboard cartons on the market," said Noel Bakke, president of Standard Fruits, Inc., with offices in Seattle. "The fruit industry hopes that the paperboard industry will develop a satisfactory box because when such a box is perfected it will cost less and be a definite benefit to our industry. For this reason, we are cooperating and will cotninue to cooperate in the development of paperboard boxes.

"We are packing more each year in paperboard boxes and there is no doubt they will come into their own," said Mr. Bakke.

Other New Paperboard Uses

Other wartime paperboard products developed by California Container Corporation, in addition to the "fruit cradle" described in this article, include:

Containers for aircraft parts.

Double wall corrugated board as a substitute for wall board.

Tar barrels of corrugated board, replacing wooden barrels.

Several styles of cheese boxes. Some buyers have said these are superior to wood boxes.

Thirty-dozen egg case which does not require staples and may be set up at egg ranches. The Washington Co-op Egg & Poultry Association has made successful test shipments.

Camas Rose Arbors Extended; 8,000 Cuttings Given Away

● A bed of roses is something more than a figure of speech if used to describe the Camas plant of the Crown Zellerbach corporation. Anyone who has seen the plant during these past weeks will know that reference is made to the plantings of Paul Scarlet roses.

Ten years ago, the planting of Paul Scarlet climbing roses was begun at Camas and the plan to have one of these climbers on every pole in the mill yard is very nearly accomplished. Some of the poles are almost completely covered, and in combination with the acres of well-kept lawn the effect is striking.

One of the arbors, which is planted in front of the converting plant, is about 250 feet long and over eight feet high. J. E. Hanny, resident manager of the Camas plant who has been behind this beautification program, plans to plant roses on the guard fence for a mile on each side of the railroad tracks where they extend through the mill yard.

An interesting and pleasing experience came to Mr. Hanny one evening as he was aboard one of these trains. He had gone to Portland to get his reservation and was preparing to enter his berth at the time that the train stopped in Camas. The porter called him over to a window and showed him "the beautiful bower of roses" in front of the converting plant. They are lighted and plainly visible from the depot, and Mr. Hanny learned that it was regularly pointed out to passengers.

Eight thousand cuttings have been given away this year, and for the past four or five years these slips have been bundled in two dozen lots and given away to employees. The town of Camas has many Paul Scarlet roses.

This year, a 150-foot strip has been planted beyond the bag factory, where they make a fine display to anyone on the highway to Portland.

ONLY A PART OF THE PAUL SCARLET ROSES grown at Camas, Wash., Crown Zellerbach plant. J. E. HANNY, resident manager and an enthusiastic rose fancier, who stands alongside these climbers, said warmth from the steam pipe above accelerates the growth and keeps it continuing well into cold weather.

Flintkote Man Reports African Coincidence

● Lieutenant John L. Campbell, U. S. Army, has had plenty of thrills thus far, fighting the war in North Africa, but none quite equalled the "lift" he got from the sight of a fragment of cardboard lying half covered by desert sand. The name caught his eye: "Pioneer—The Flintkote Company, Los Angeles."

Presumably that carton had done its task of delivering supplies to our fighting men, but it still had another to perform, that of awakening in Jack Campbell nostalgic thoughts of home and the concern for whom he worked as assistant to the superintendent of the corrugated container division prior to his enlistment, Jan. 23, 1942.

In that plant, from which the carton originally came, is his father, O. M. Campbell, assistant to the general manager. A proud man is "O. M.," glad to have contributed two sons to fight for their country: Jack, who went to an officers' training camp in the middle west and emerged with a commission at the age of 24; and Bob, a younger son, also in the army.

THIS FRAGMENT from a cardboard carton made by The Flintkote Company, Pioneer Division, in Los Angeles, was picked up in the desert sands of North Africa by Lieutenant Jack Campbell, U. S. Army, former corrugated container superintendent in that Flintkote plant, who is shown above in a recent photograph.

Natwick and Daughter In Idaho Train Wreck

● A. G. "Buff" Natwick, assistant resident manager at the Camas, Wash., plant of the Crown Zellerbach Corporation, and his daughter, Phyllis, who competed in a national piano contest in the East, were in a serious train wreck on their return journey home but escaped injury.

Phyllis Natwick, his daughter, was one of nine finalists in the Schubert Memorial piano contest held in New York, May 6, and attended by her father. The competitors included several already nationally known pianists.

On the return trip, near Bonners Ferry, Idaho, nine of the eleven coaches of the train on which they were riding were derailed. This caused a ten-hour stay in the Idaho woods for the travelers. Mr. Natwick and Phyllis were standing in a vestibule, waiting for places in the dining car, when the train left the track and started to jack-knife. They saw steel plates crumpling and walls crushing in with awful clarity and remembered an army officer, caught in the same vestibule, praying rapidly and vehemently.

On his three and a-half weeks' trip East, Mr. Natwick visited plants in Maine, Canada, Pennsylvania and Wisconsin. He saw quite a few women replacing men in these mills, but reported that they do not have as serious a manpower problem as that confronting the West Coast mills. Wood supply was bothering some of these organizations, and their woods operations had shortages of men, he said.

One thing that particularly impressed him was the elaborate guard and protection systems which these mills maintained. Many of them were doing war work in their shops but not nearly to the same extent as West Coast paper mills.

Topics of Discussion Proposed For U. S.-Canadian Collaboration

● A Pacific Northwest Trade Association, comprised of representatives of the chambers of commerce and boards of trade of leading Oregon, Washington and British Columbia cities, has been organized to prepare the way for post-war joint development of the North Pacific region.

It's meetings have been marked by free and frank expression of opinions by both the United States and Canadian participants.

Many Canadian woods industry leaders believe after the war the Ottawa (British Empire preference) agreements will be allowed to lapse. In this case, freer entry of British Columbia products into the United States is necessary, they say, to save the industries involved.

They point out that pulpwood is likely to still be at a premium after the war and that freer tariffs might make possible considerable exports of British Columbia logs to Puget Sound mills.

Miller Freeman, publisher of Pacific Pulp & Paper Industry, who has strongly advocated that Pacific Coast government and industry leaders take the initiative in planning their own post-war program—rather than leave it to London, Washington and Ottawa — has proposed twelve topics of discussion for the meetings of the Pacific Northwest Trade Association. Three of these deal with fisheries problems. The other suggestions for study with a view to setting up long range relationship between the two countries are:

1. Removal of all trade and immigration barriers between the two countries.
2. Equalization of American and Canadian currencies.
3. Abolition of censorship between the two countries.
4. Planning of a program of permanent defense for the North Pacific region.
5. Support for the survey being made by the joint economic committees representing the United State and Canada in Alaska, northern British Columbia, the Yukon and the Northwest Territories. Studies of the resources of the region should be immediately undertaken. One such study, for instance, should be directed with a view to determining where would be the most suitable place to establish a west coast steel industry. When the choice of location is made there should be unanimous support for such an enterprise on both sides of the line.
6. Establishment of headquarters for these committees at some suitable place on the Pacific Coast, such as Victoria, rather than in the east.
7. Agencies of the states and the provincial governments of the Northwest region should be invited to participate in this work of the Pacific Northwest Trade Association, and groups representing service clubs of the various communities should be represented on permanent committees.
8. Joint use of airports in both countries.
9. Invite the editors and publishers of newspapers and magazines of the North Pacific region to join and give the powerful aid and guidance of the press to this work.

Woodpulp Deliveries Drop 22 Per Cent

● Receipts of wood pulp by U. S. paper mills during the first four months of 1943 were 22 per cent below the receipts for the same period in 1942, and may decrease to 25 per cent below by the end of the year, the War Production Board announced on June 5. Paper production will decline in about the same proportion.

The decline in receipts of wood pulp is approximately in line with expectations of the Pulp and Paper Division of WPB, and has been taken into account in estimates of the future paper supplies.

The greatest decline in receipts of this essential material for paper making was in the Lake States region, where it amounted to 45 per cent. The Pacific Northwest was second, with a decline of 30 per cent.

Mielke in Washington

O. W. Mielke, general manager of Blake, Moffitt & Towne, San Francisco, went to Washington, D. C., recently for a conference of the OPA coarse paper advisory committee, of which he is a member.

Turcotte Discusses Possible Liquor Use

At a recent meeting of the Rotary Club in Bellingham, Wash., the Puget Sound Pulp & Timber Company presented an exhibit acquainting the membership with products and by-products of the mill and stressing its important activities.

The exhibit proved interesting and some of those present thought it might be a form of community instruction that might prove beneficial in other mill cities.

Lawson Turcotte, executive vice president of the company, made an informal talk, in which he informed his Rotary associates that it takes 14,000,000 feet a month of logs to keep the mill going at the capacity rate of 470 tons. The mill has actually been operating at a much reduced scale, although it increased production in recent months.

He declared that "waste" pulp liquor has been proved to be valuable as a source of plastics and 180 proof industrial alcohol, and the local company hope it may yet be profitably utilized for these purposes.

Newsprint Cuts Ordered; WPB Controls All Pulp

● Only a few days before the War Production Board ordered a further cut in newsprint use in the United States for the third quarter beginning July 1, Canadian Newsprint Administrator Guy E. Hoult announced that instructions had been sent to all Canadian newsprint manufacturers which, in effect, would reduce supplies to the United States market to 87 per cent of orders placed for July delivery.

The WPB order required cuts in newsprint use up to five per cent for the larger newspapers. Several weeks earlier, Donald Nelson, WPB chairman, had said there might be no further cuts necessary before October 1. But the newspaper publishers association had admitted many papers had failed to comply with the original 10 per cent cut order. Many had only cut about five per cent and so the new order brings their reduction, actually, only to the original 10 per cent figure.

Regarding his instructions, Mr. Hoult said that United States newsprint orders for July, at 240,000 tons "again substantially exceed the total deliveries of 210,000 tons that Canada has agreed to supply the United States each month through the third quarter of 1943."

It was announced simultaneously in Washington, D.C., that the War Production Board had taken control over the use of all woodpulp in the United States,

U. S. Needs Million Tons Of Paper In 1943

● Total paper requirements of all federal and non-war agencies in 1943 will approximate 1,000,000 tons, Donald Nelson, WPB chief, announced recently.

Of 85 Federal agencies, 78, which include all of the large users of paper, report their 1943 requirements as follows:

	Tons
Newsprint	55,092
Groundwood paper	104,295
Book paper	68,549
Fine paper	289,628
Wrap, tissue, build., etc.	480,791
Total	998,345

The War Department accounts for something under half of this aggregate, with lend-lease requirements second, Board of Economic Warfare third, and Navy Department fourth. The U. S. Post Office is the fifth largest user of paper, the Treasury sixth, and Office of Emergency Management seventh.

With respect to total printing paper requirements of the Government, Mr. Nelson says the aggregate figure approximates 421,021 tons, a downward revision of 310,044 from figures submitted February 5.

Handles Brown Co. Product

The West Coast Paper Company of Seattle has been appointed distributor in that area of Escort Ledger and Machine Posting, a 50 per cent new rag paper made by the L. L. Brown Paper Company, Adams, Mass.

Heads Y. M. Directors

C. J. Kay, president of Columbia Paper Company, Vancouver, B. C., has been elected president of the board of directors, Vancouver Y.M.C.A., for the seventh time in succession.

Acid Making In the Sulphite Pulp Industry

by A. H. LUNDBERG*

CHAPTER II

IN the early days of sulphite pulp manufacture there was no recovery of the excess sulphur dioxide gas that is released from the digesters during the cooking operation. The relief gases were mostly discharged into the atmosphere or occasionally cooled and mixed with the burner gases. Thus, the raw acid making plant, commonly called the acid plant, had to furnish the cooking acid. The acid used was therefore very weak compared with acid strengths of today and the cooking process a lengthy procedure.

The recovery process or the method of absorbing the relief gases in the raw acid was invented by Viggo Drewsen and associates, and it is this invention more than anything else that made it possible for the sulphite pulp industry to develop to the degree we witness today.

Acid making, as now practiced, is divided into two operations of equal importance:
The function of the raw acid is to supply the base (CaO, MgO, etc.) and the sulphur dioxide requirement; and
The function of the recovery system is to recover and maintain the excess SO_2 in the cooking acid without which the present day quick cook would be impossible.

I. CONDITIONS AFFECTING THE ACID REQUIREMENT

There are a number of conditions affecting the strength of acid and the quantity required:

1. Different species of wood, even same species grown in different soil, altitude and climatic conditions, require different treatment and thus different type acid.
2. Different qualities of pulp, such as strong, easy bleaching and rayon pulps, are cooked differently and thus require different acid compositions.
3. The moisture content of the wood not only affects the acid strength directly but also indirectly as wet chips pack themselves harder in the digester than drier chips, thus affecting the volume that can be used.
4. Various devices of chip packing are in use and the degree of packing determines the amount of acid that can be used.
5. Different cooking methods are used; each requiring different acid compositions. The principal cooking methods are

Indirect and Direct Cooking,

but there are a number of combinations and lengths of cooking time.

6. Different recovery systems, such as cold and hot acid recovery and combinations are in use.

From the foregoing it is understandable that no set specifications can be made for the acid to be used. Each individual mill must work out its own problems, adopt its own cooking procedure and learn from experience what strength acid is best suited for the grade of pulp to be produced.

What will be attempted in this article is to show how theory should be applied to practical acid making and what can be expected from various arrangements and equipment.

*Seattle, Washington. Mr. Lundberg is Western Manager, G. D. Jenssen Company, New York City.

II. EFFECT OF MOISTURE CONTENT OF THE WOOD ON ACID VOLUME AND STRENGTH

Mr. J. B. Jones of the Ontario Paper Co., Ltd., in his article on "Sap Peeled as against Drum Barked Wood" reported following observations:

	Sap Peeled Wood	Drum Barked Wood
Wood moisture	35.0%	45.0%
Wood Density	0.402	0.403
Net Weight per cu. ft.	38.50 lbs.	45.80 lbs.
Wood per digester	28.30 tons	31.70 tons
Pulp per digester	12.73 tons	13.90 tons
Screenings %	1.5	2.5
Per cent yield by weight	45.0%	43.84%
Acid per digester, Imp. Gals	28100	26300
% Total SO_2 in cooking acid	5.12	5.18
Ratio of wood to SO_2 in digester	3.93:1	4.65:1
Ratio of acid to wood in digester	4.96:1	4.15:1
% Total SO_2 in raw acid	3.25	3.50
Sulphur per 1000 Gals. raw acid	169	182
Liquor and gas recovery	54%	65%

The wood used in both cases was spruce and, as noted, of practically the same density. The main difference lies in the moisture content.

In the digester, charged with 35 per cent moisture content wood, there are 28.30 tons dry wood and 28100 Imp. Gals. of acid or 1192 U.S. Gals. per ton dry wood, while in the digester, charged with 45 per cent moisture content wood, there are 31.70 tons dry wood and 26300 Imp. Gals. of acid or 996 U.S. Gals. per ton dry wood. The acid used for the wetter wood was slightly higher in SO_2, 5.18 per cent against 5.12 per cent, but not sufficiently high as noted from the drop in yield by weight of good fiber. For the ratio of SO_2 to wood to be the same in both cases the acid used for the wetter wood should have contained 6.12 per cent. Total SO_2 instead of the 5.18 per cent used.

This example quite conclusively proves the necessity and importance of making allowances in the acid plant to compensate for changes in the wood's moisture content.

III. EFFECT OF CHIP PACKING ON ACID VOLUME AND STRENGTH

Chip packing influences the acid volume and strength in same manner as wetter wood, discussed under paragraph II. The higher the degree of packing, the smaller the available space for acid in the digester and, consequently, the SO_2 content of the acid must be increased in proportion to the degree of packing.

The failure of chip packing devices in many mills is directly traceable to insufficient SO_2 and base supply.

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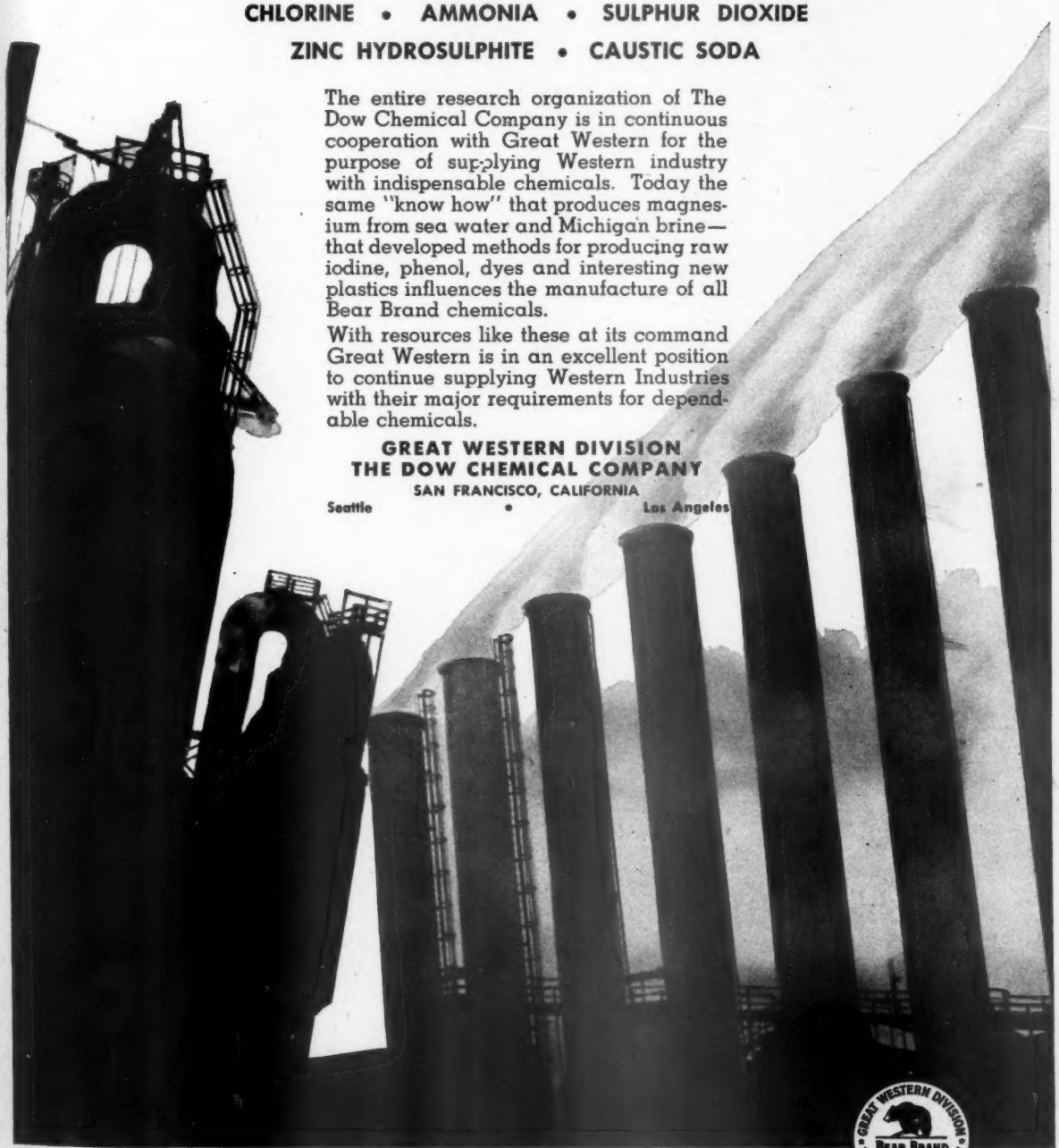

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IV. EFFECT OF DIFFERENT COOKING METHODS ON ACID VOLUME AND STRENGTH

A. Direct Cooking.

With direct cooking is understood the direct steaming of the digester,i.e. the steam comes in direct contact with the digester charge and condenses.

The amount of condensate depends on the amount of steam used for cooking, which in turn depends on the original temperature of the digester charge (wood and acid), on the maximum cooking temperature, and on the original acid strength. During the cooking operation this condensate is relieved into the acid storage tanks diluting the raw acid. This dilution effect must be compensated for in the acid plant.

B. Indirect Cooking.

With indirect cooking is understood the opposite to direct cooking, i.e. the steaming is done indirectly, either by means of steam coils located inside the digester or by means of an outside heat exchanger.

Thus, no steam is condensed to cause dilution and a larger volume of acid has to be made in the acid plant.

If a combination of the two principal methods is used, there will be a corresponding change in raw acid volume and strength.

V. EFFECT OF DIFFERENT SYSTEMS ON ACID VOLUME AND STRENGTH

A. Cold Acid Recovery.

With cold acid recovery is understood the absorption of the digester relief in the raw acid at atmospheric pressure.

As the absorption of SO_2 is dependent upon temperature and pressure, the digester relief has to be cooled. The cooler the acid, the more SO_2 can be held in solution.

Referring back to paragraph IV colder acid means higher steam consumption and dilution of raw acid, which in turn means less raw acid but stronger.

B. Hot Acid Recovery.

With hot acid recovery is understood the absorption of the digester relief in the raw acid at elevated pressures. As the pressure increases, the solubility of SO_2 increases, and the temperature of the stored acid can be kept higher. This, in turn, means reduced steam consumption and less dilution of the raw acid. Thus, more but weaker acid is required.

VI. ACID REQUIREMENT IN GENERAL

As practically every mill figures its raw material requirement on a per ton of finished product basis, following mill data have been assumed for following calculations:

Daily production—200 tons of unbleached pulp
Sulphur consumption—250 lbs. per ton of pulp
Limestone consumption—320 lbs. per ton of pulp
Cooking acid requirement 2300 U.S. Gals per ton of pulp.

A. Mill Equipment as per Flow Sheet No. 5.

The amount of liquor relief (liquor returned from digester) is assumed to be 1000 Gals.

Thus, 1300 Gals. of raw acid are required having a Total SO_2 content of

$$\frac{2 \times 250 \times 100}{1300 \times 8.33} \text{ or } 4.62\%$$

and a Combined SO_2 content of

$$\frac{64 \times 320 \times 100}{100 \times 1300 \times 8.33} \text{ or } 1.89\%.$$

B. Mill Equipment as per Flow Sheet No. 8.

The amount of liquor relief is assumed to be 800 Gals.

Thus, 1500 Gals. of raw acid are required having a Total SO_2 content of

$$\frac{2 \times 250 \times 100}{1500 \times 8.33} \text{ or } 4.00\%$$

and a Combined SO_2 content of

$$\frac{64 \times 320 \times 100}{100 \times 1500 \times 8.33} \text{ or } 1.64\%.$$

C. Mill Equipment as under B, but Digesters equipped for Indirect Heating.

The amount of liquor relief is assumed to be 300 Gals.

Thus, 2000 Gals. of raw acid are required having a Total SO_2 content of

$$\frac{2 \times 250 \times 100}{2000 \times 8.33} \text{ or } 3.00\%$$

and a Combined SO_2 content of

$$\frac{64 \times 320 \times 100}{100 \times 2000 \times 8.33} \text{ or } 1.23\%$$

These calculations are indicative only, as gas return from recovery systems is not considered, but serve the purpose of showing the variety of acid combinations a modern acid plant has to fill.

VII. ESSENTIAL UNITS NECESSARY FOR ACID MAKING

Following units are necessary for acid making:

A—SO_2 Producing Unit.
B—Bisulphite Producing Unit.
C—Recovery Unit.
D—Cooking Acid Storage.

A. SO_2 Producing Unit.

For acid making it is immaterial if sulphur or sulphides are used for the production of the SO_2 gas provided that these raw materials meet the specifications given in Chapter I, Paragraph II. It takes some additional equipment, but otherwise as good an acid can be produced from pyrites as from sulphur. The choice is purely an economical question.

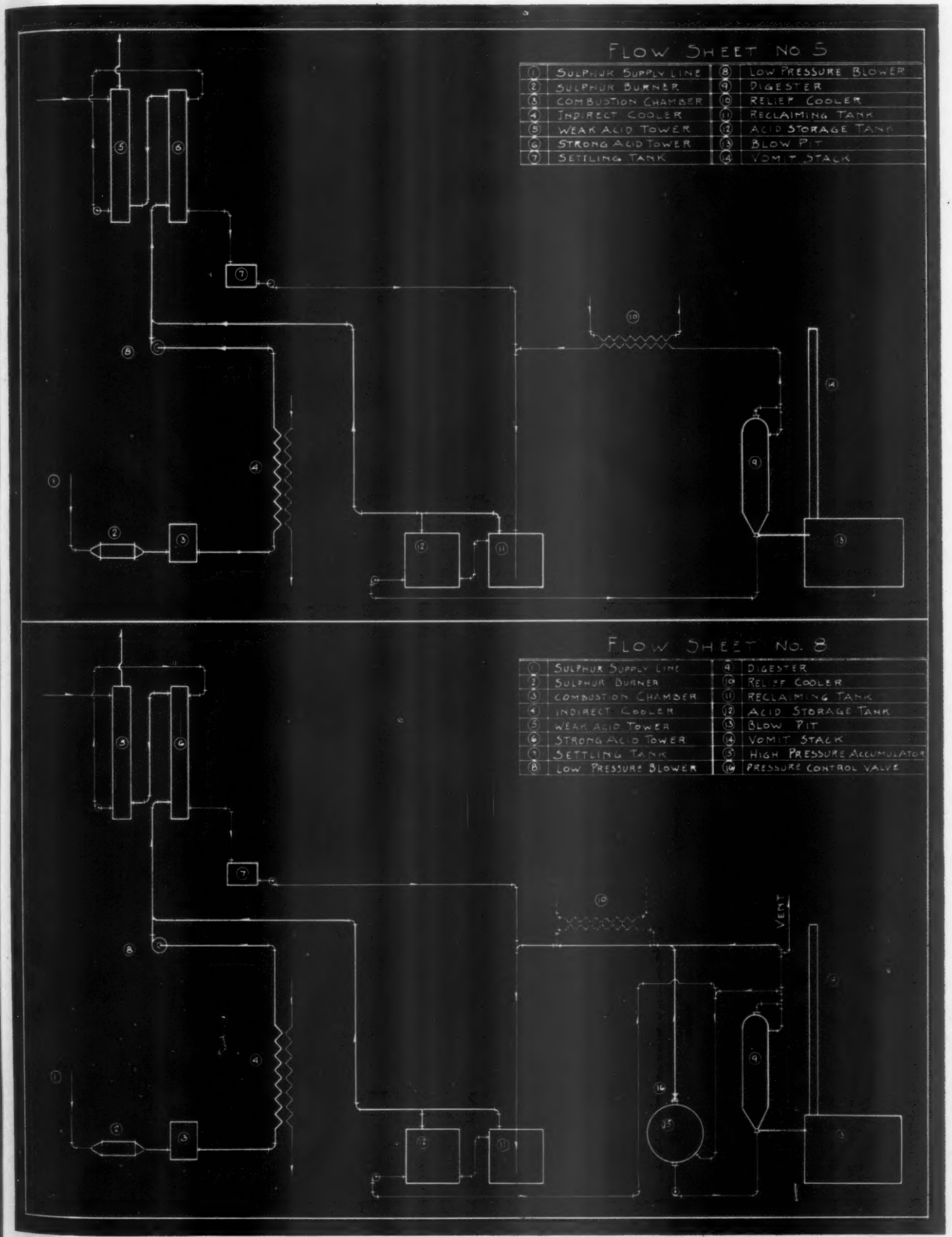
Of importance is that the material is handled properly in suitable burners or roasters, so that a suitable gas is produced.

Such a gas should contain a minimum of free oxygen and be practically free of sulphur trioxide, free sulphur and other impurities.

Of equal importance is that the gas serength is maintained uniform. If the gas strength is uniform, then, usually, the temperature of the gas is uniform.

The theoretical gas from sulphur and pyrites was given in Chapter I, Paragraph III, as 21% and 16.4% respectively. In practice these figures can only be approached, but 19 % SO_2 gas and slightly higher has been maintained from spray type sulphur burners, and 13% SO_2 gas and slightly higher from Nichols-Freeman flash roaster from pyrites.

The commonly used Glens Falls type rotary sulphur burner can and should give a 17 to 18% gas, and the


FLOW SHEET NO 5
1 SULPHUR SUPPLY LINE
2 SULPHUR BURNER
3 COMBUSTION CHAMBER
4 INDIRECT COOLER
5 WEAK ACID TOWER
6 STRONG ACID TOWER
7 SETTLING TANK
8 LOW PRESSURE BLOWER
9 DIGESTER
10 RELIEF COOLER
11 RECLAIMING TANK
12 ACID STORAGE TANK
13 BLOW PIT
14 VOMIT STACK
FLOW SHEET NO. 8
1 SULPHUR SUPPLY LINE
2 SULPHUR BURNER
3 COMBUSTION CHAMBER
4 INDIRECT COOLER
5 WEAK ACID TOWER
6 STRONG ACID TOWER
7 SETTLING TANK
8 LOW PRESSURE BLOWER
9 DIGESTER
10 RELIEF COOLER
11 RECLAIMING TANK
12 ACID STORAGE TANK
13 BLOW PIT
14 VOMIT STACK
15 HIGH PRESSURE ACCUMULATOR
16 PRESSURE CONTROL VALVE
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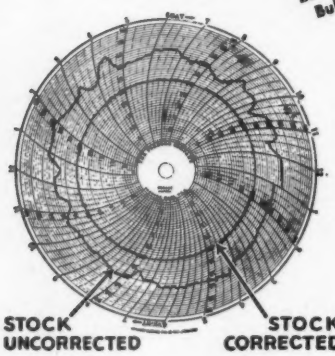

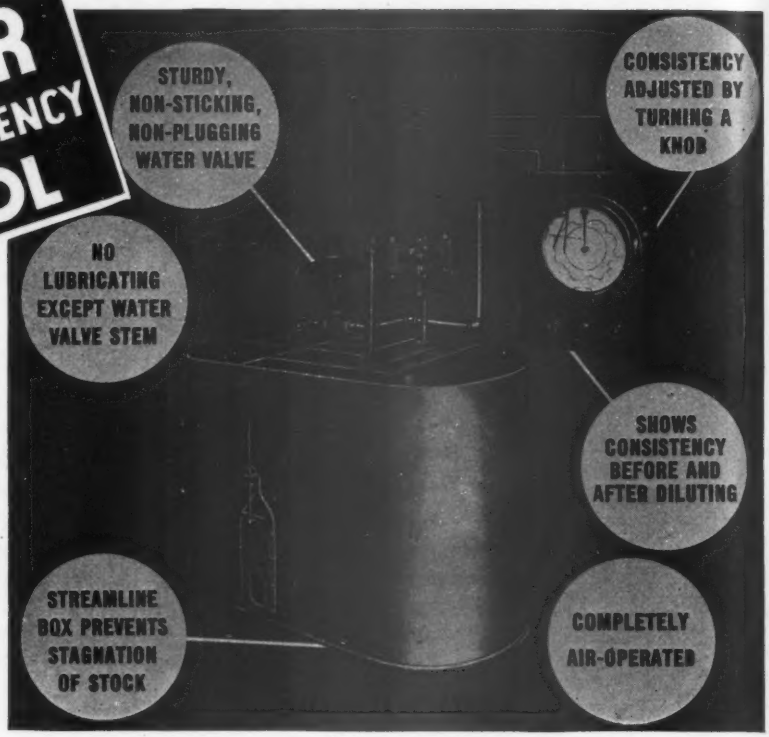
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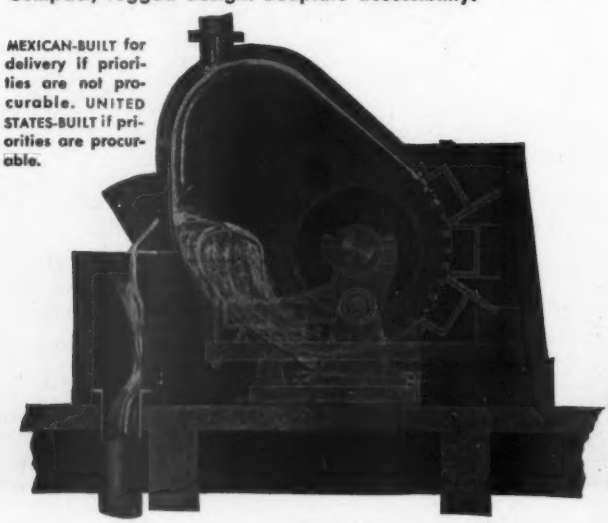
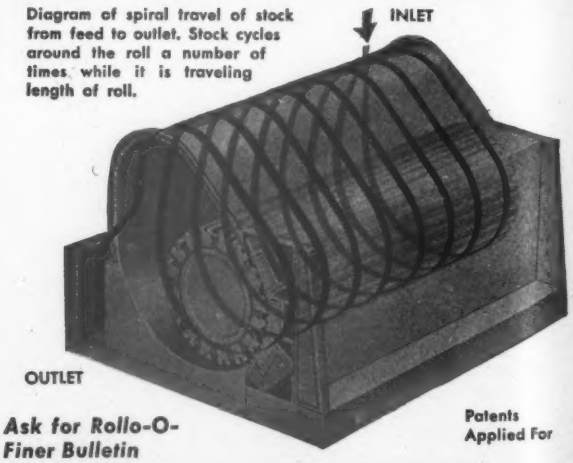


Diagram of spiral travel of stock from feed to outlet. Stock cycles around the roll a number of times while it is traveling length of roll.



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flash roaster for pyrites an 11 to 12% gas. For all practical purposes such gas strengths are satisfactory.

Pre-melting of the sulphur before it enters the burner, against feeding of raw sulphur, should have the advantage of easier handling and better feed control. It must be incorporated in connection with the spray type burners.

The choice of cooling equipment is also an economical question. For acid making we are only concerned with the temperature of the gas. The direct cooling method, fully described in Chapter I, Paragraph VIII, is almost necessary when it comes to pyrites roasting, but is also of value in connection with sulphur burning. The scrubbing helps in removing sublimed sulphur, if present, and the gas leaves saturated with vapor, which seems to be helpful in prevention of corrosion of chrome nickel steel alloys. On the other hand, the sulphur loss is higher than for indirect cooling.

A boiler installation has only an economical value.

B. Bisulphite Producing Unit.

In this unit the raw acid is prepared.

Industrial apparatus for gas absorption may usually be classified as one of three different types, viz:

Packed Tower
Bubble Tower
Spray Tower.

The most common type of absorption equipment in a sulphite pulp mill is the packed tower on account that sulphur dioxide is one of the industrial gases for which the resistance of both films (liquid and gas) must be allowed for. Further, SO_2 and water in dilute mixtures obey the Henry's law only approximately. Sulphurous acid solution containing combined sulphur dioxide, however, follow Henry's law.[7]

The stone towers, absorption towers, strippers and cooling towers all come under the classification of packed towers.

Bubble towers, in which the gas is introduced into the liquid in the form of numerous fine bubbles formed in passing the gas through perforated plates, are also used in sulphite mills, especially in connection with milk-of-lime systems.

Spray towers are nothing but large empty chambers, through which the gas passes and into which the solvent is introduced by means of a spray or sprays, and are not in use for bisulphite production. The spray tower principle is, however, used in sulphite mills for absorption of SO_2 from the vomit stack gases.

1. Absorption of Sulphur Dioxide in Towers Packed with Lime Stone.

The use of lime stone towers for absorption of sulphur dioxide and for production of the raw acid goes back to the early days of sulphite making and is still practiced in the majority of sulphite mills.

As in any packed tower absorption system there are many factors influencing the result to be taken into account.

The packing material, lumps of lime rock, has, as mentioned in Chapter I, Paragraph II, two functions to fulfill, i.e. to supply the lime requirement and to give absorption surface. The theory that a certain amount of SO_2 must first be dissolved in the tower water before the lime stone is attacked is generally accepted.

If it is assumed, however, that mono-sulphite is formed, which later on is dissolved in excess sulphurous acid, the result should in all instances be a saturated solution in line with the saturation charts in Chapter I, Paragraph XI. This is, however, not the case.

Professor W. L. Beuschlein[8], however, states that for a given tower and temperature, the rate at which lime stone dissolves will be proportionate to the free acid in the turbulant layer. This means that the ratio of combined to total SO^2 is constant throughout the lime stone packed tower.

The principal factors influencing the results are

a. Temperature of Fresh Water
b. SO_2 Strength of Gas
c. Strength of Acid Produced
d. Grade of Lime Stone
e. Rate of Flow of Water and Gas.

Charts XXI, XXII, XXIII and XIV have been prepared from operating data obtained from various West Coast mills.

It should be remembered that the relation between total and combined SO_2 will vary in different mills and the charts presented should be accepted as illustrative of the general trend only.

The writer would appreciate if the readers would prepare and furnish him charts similar to the above from their own installations, at the same time giving data about water and gas rates, area and height of towers. Such a set of charts are of utmost importance to every sulphite man as a foundation for further study of his acid making equipment and hookup.

The charts are probably more accurate from 1.00 per cent Total SO_2 and up than below 1.00 per cent on account of the difficulty in maintaining such low acid concentrations for any length of time.

The influence of water rate against a fixed gas supply (gas strength and volume) at various fresh water temperatures has been studied by Dr. Humm. His findings are found on charts XXV, XXVI and XXVII.

It should be noted that a temperature of the fresh water between 10° and 15°C. (50° and 60°F.) is most suitable for acid making in a lime stone tower. Water below 10°C. does not generally produce sufficient combined SO_2.

2. Absorption of Sulphur Dioxide in Milk-Of-Lime.

The milk-of-lime systems operating in America are either of the Barker or the Paulson acid tower type. Both are of the bubble type or sieve plate construction. A packed tower could, however, also be used.

If properly designed and operated one would expect the results to closely approximate the results shown on the solubility charts, Chapter I, Paragraph XI. It should be remembered, however, that the heat of reaction is almost double that for calcium carbonate, see Chapter I, Paragraph XII.

In a milk-of-lime system a slurry is made up of calcium hydrate, magnesium hydrate or both of the concentration wanted. The right amount of combined is thus assured. The slurry is then pumped to the acid tower countercurrent to the gas stream.

3. Absorption of Sulphur Dioxide in a Suspension of Pulverized Calcium Carbonate and Other Carbonates.

The carbonates must be pulverized very finely, not less than 200 mesh. A slurry is made up of predetermined strength. This slurry is treated similarly to the milk-of-lime mentioned above. Either a packed or a bubble tower can be used.

(7) Beuschlein, W. L., Pacific Pulp and Paper Industry, Feb., 1941.

(8) Beuschlein, W. L., and Conrad, F. H.; Theory of Absorption Applied to the Sulphite Tower.—Paper Trade Journal, Sept. 20, 1934.

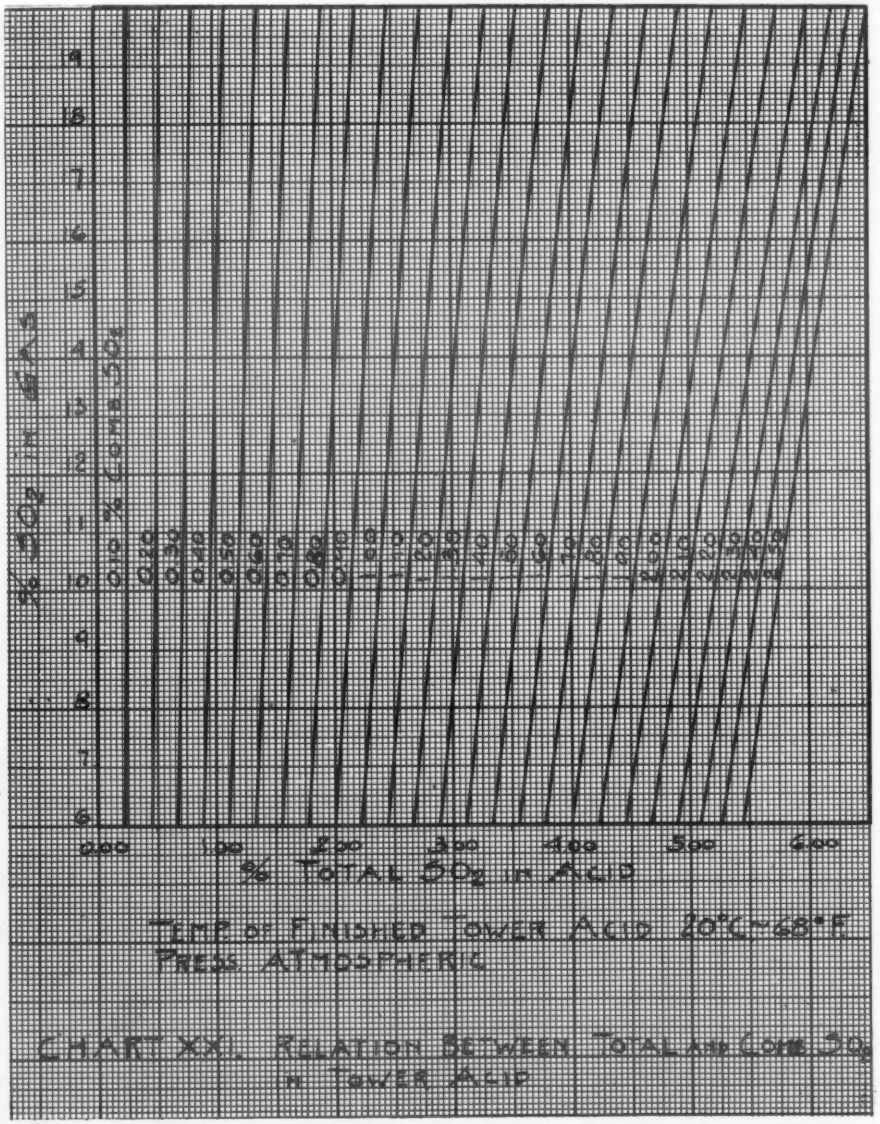

CHART XXI. Relation Between Total and Comb. SO_2 in Tower Acid

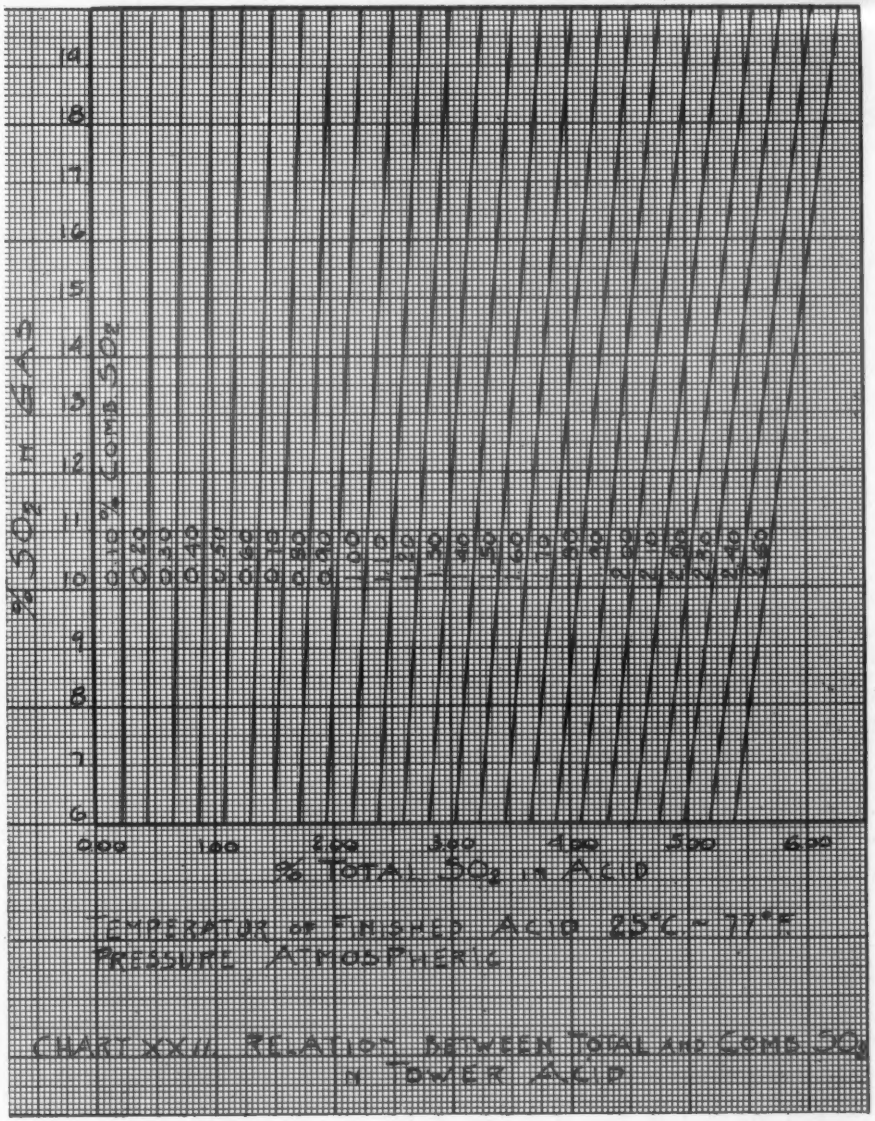

CHART XXII. Relation Between Total and Comb. SO_2 in Tower Acid

A New Star Shines at Hooker

Under Secretary of War Robert P. Patterson has just informed the men and women employees at Hooker that they have won the privilege of adding a coveted White Star to the Army-Navy "E" Production Award Flag which now flies above their plant.

This White Star is awarded for meritorious services on the production front. In the words of Secretary Patterson it is:

"The symbol of appreciation from our Armed Forces for your continued and determined effort and patriotism."

It is with great pride and determination that the men and women of this company accept this honor. Pride in the accomplishments already achieved and determination that these accomplishments will be surpassed.

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New York, N. Y. Tacoma, Wash. Wilmington, Calif.

HOOKER CHEMICALS

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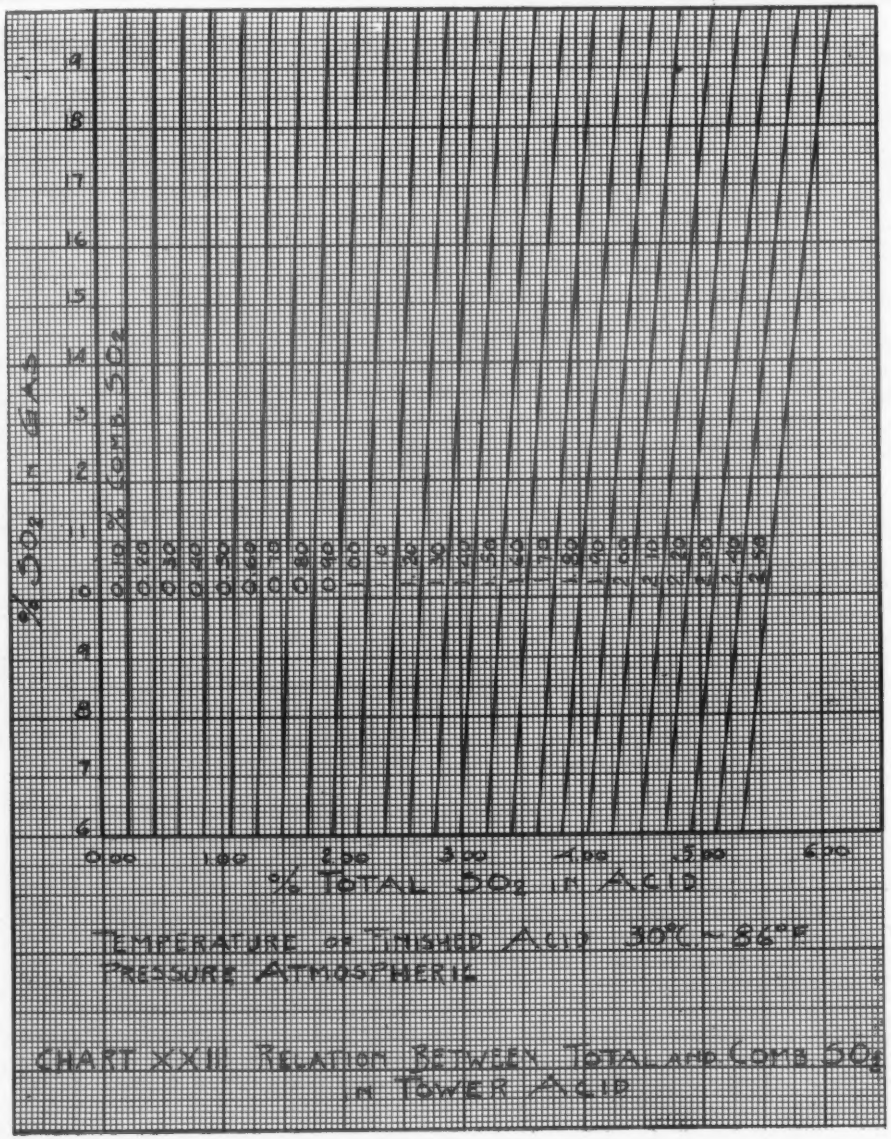
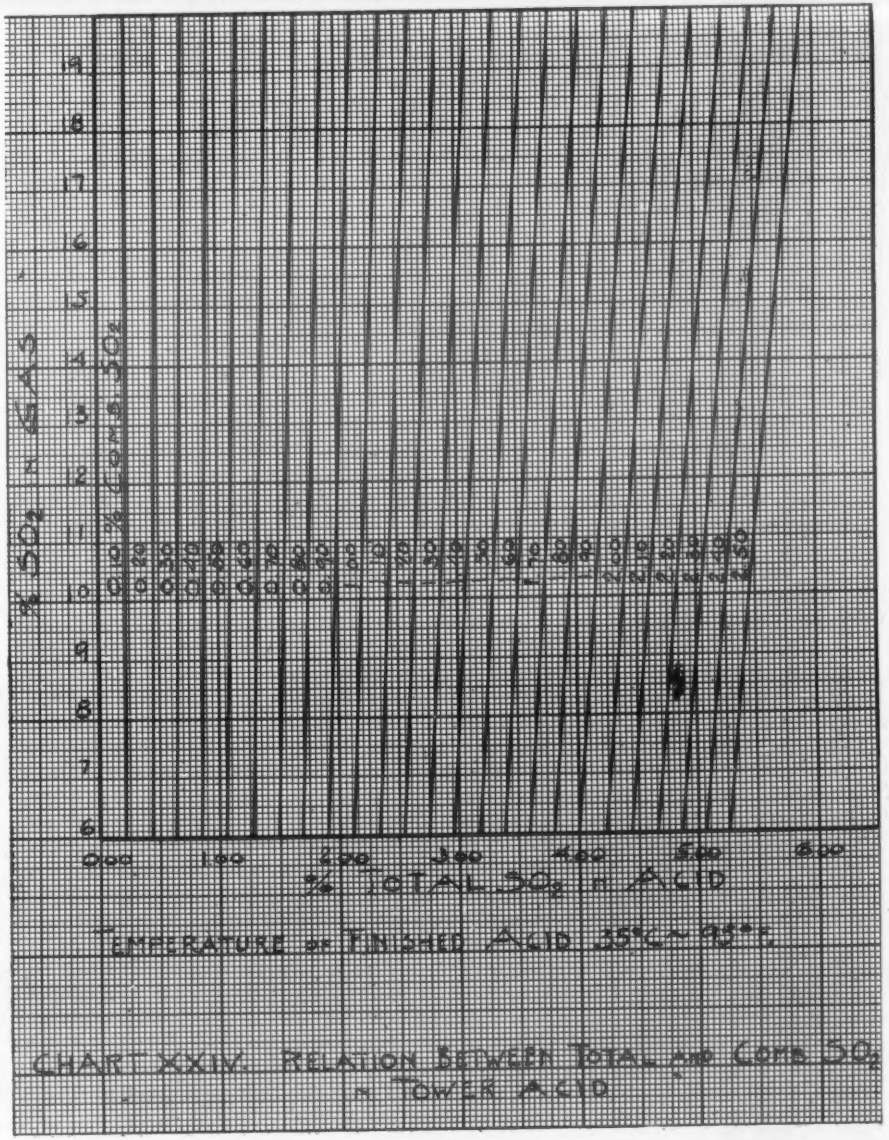


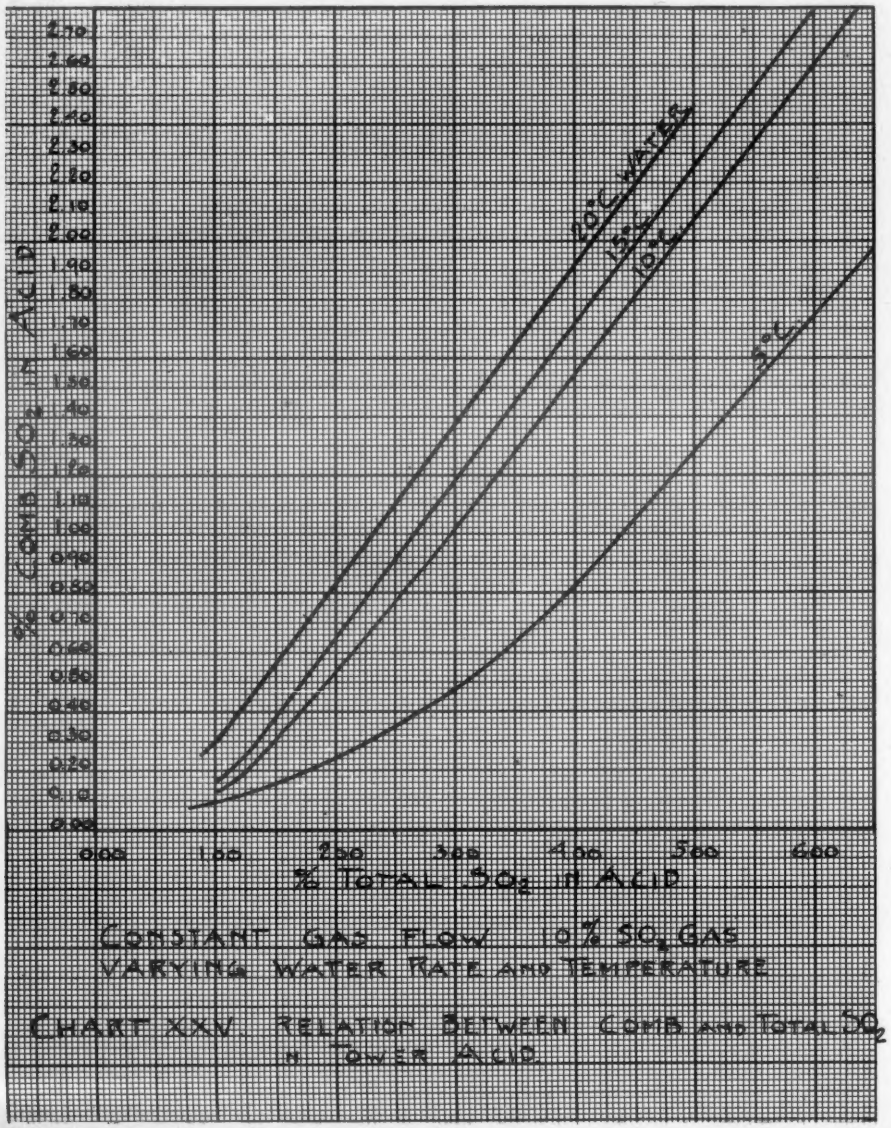
Temperature of Finished Acid 30°C ~ 86°F
Pressure Atmospheric

CHART XXII Relation Between Total and Comb SO_2 in Tower Acid



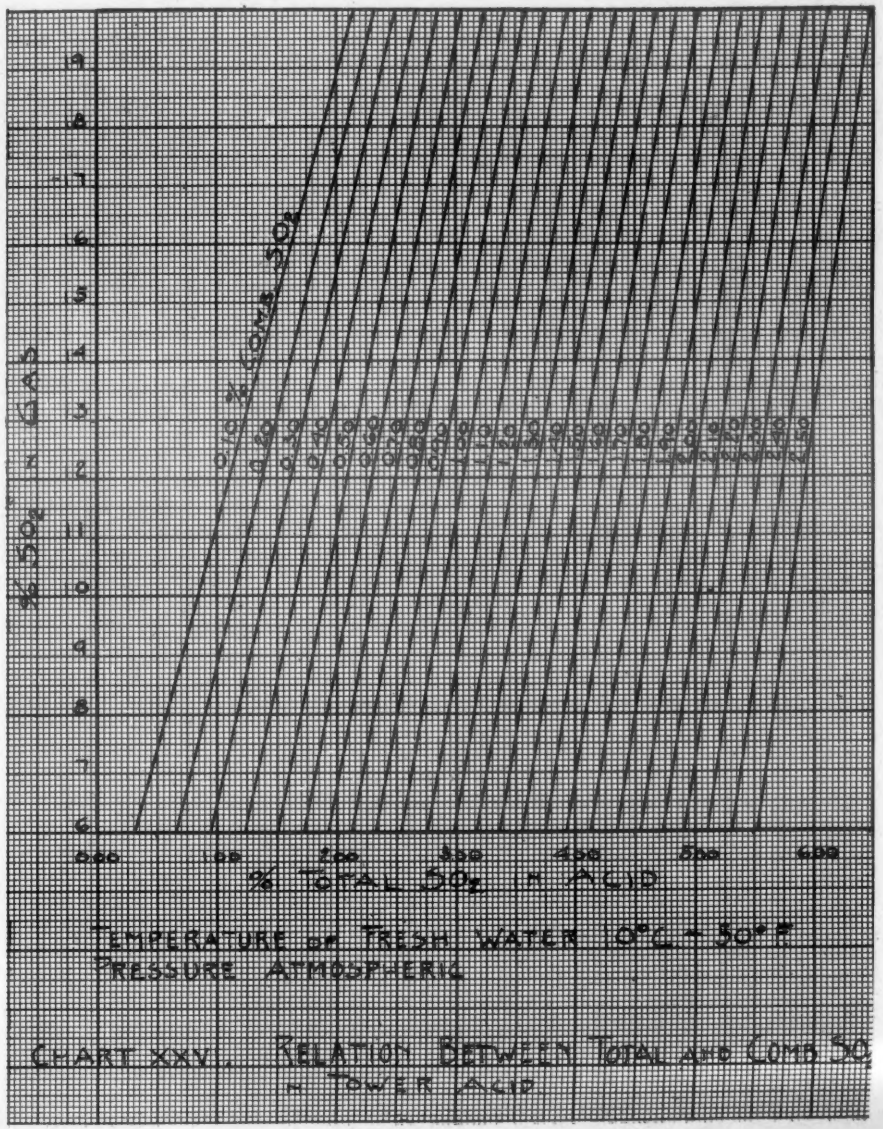
Temperature of Finished Acid 35°C ~ 95°F.

CHART XXIV. Relation Between Total and Comb SO_2 in Tower Acid



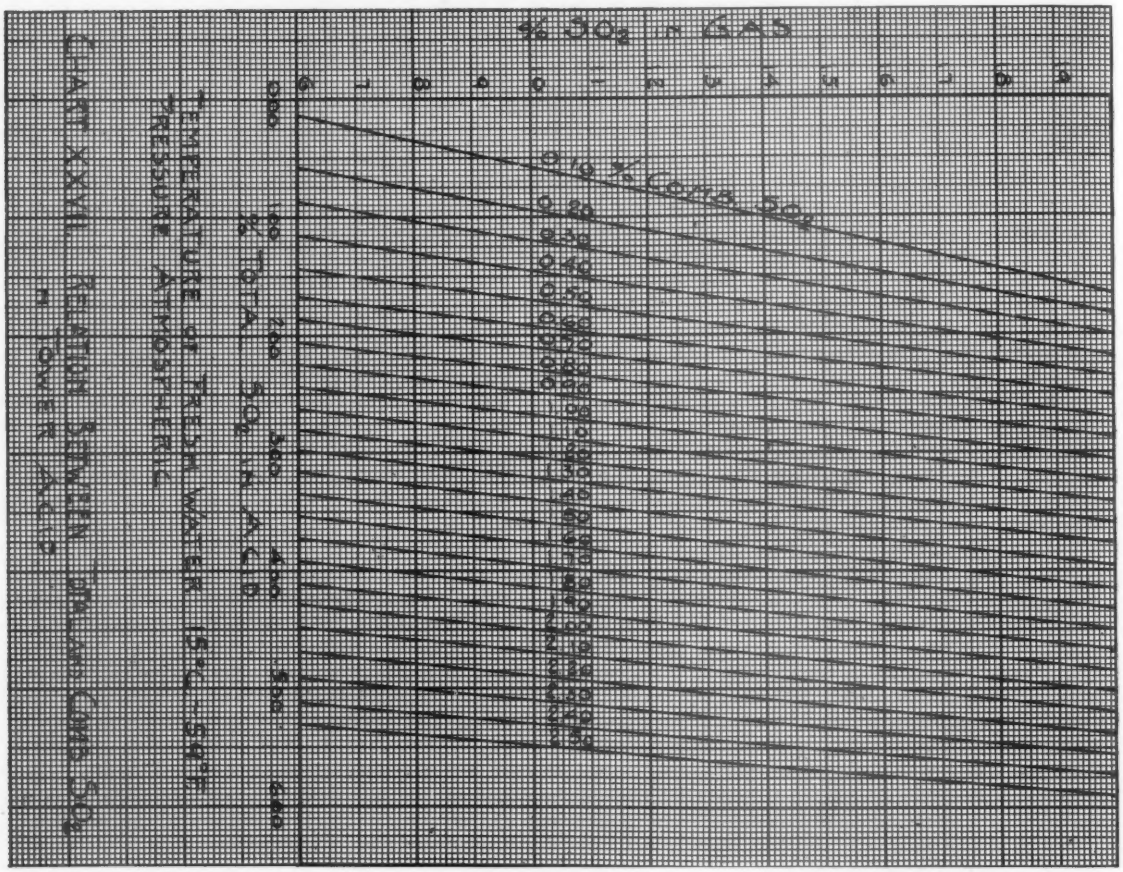
Constant Gas Flow 10% SO_2 Gas
Varying Water Rate and Temperature

Chart XXV. Relation Between Comb and Total SO_2 in Tower Acid



Temperature of Fresh Water 10°C = 50° F
Pressure Atmospheric

Chart XXVI. Relation Between Total and Comb SO_2 in Tower Acid


% SO_2 in GAS
% Combined SO_2
Temperature of Water Leaving Digester
Pressure at Digester
Time in Hours
Cook No. 2 Digester Pulp Analysis
Cook No. 2 Digester Liquor Analysis

Crab Fishermen Treat

The Noontime Recreational Club of the Pacific Coast Paper Mills of Bellingham, Wash., was given a crab luncheon June 4, By Pete Onkels, plant superintendent and club president, and Joe Hillier of the office staff. The newly formed club has for its purpose the making of a pleasant lunch hour, now that gas rationing precludes the former habit of going uptown or home for the noontime meal. In addition to the crab fishermen, the club hopes to find other providers among its hunting and fishing members.

Inducted in Army

Dolph Zimmerman, assistant sales manager in the wrapping paper department of the Zellerbach Paper Company, San Francisco division, has joined the U. S. Army.

Rotary President

Lee J. Doherty, manager of the Sacramento division of Zellerbach Paper Company, recently was elected president of the Rotary Club in that city. While in San Francisco to attend a Rotarian convention he took advantage of the opportunity to renew friendships in the paper industry.

Colton a Second Looey

Edgar L. Colton, formerly with Zellerbach Paper Company, and son of C. L. Colton, veteran vice president of the company, recently won a commission as second lieutenant, attached to the 105th Evacuation Hospital unit, Medical Administration, Camp Cooke, Calif. He entered the army as a private.

Japs Cut Jack Pine For Sorg Pulp Co.

Japanese woodcutting crews employed by Sorg Pulp Company near Lone Butte in the Cariboo district of British Columbia will help contribute to Vancouver's fuel wood supply this winter by shipping about 10 per cent of their cut to the city. The Japenese have been cutting about 150 tons of jack pine daily for the Port Mellon pulp plant.

General Manager Herman Simpson says that about 10 per cent of the cut is unsuitable for pulping and is being made available for Vancouver stoves and fireplaces.

Thiem Appointed To Sales Post

J. M. Sholl Lewis, Pacific Coast manager, Paper Container Manufacturing Company, with headquarters in Los Angeles, announced late in May the appointment of Gerry A. Thiem as manager of P. C. Soda Cup sales in California. Mr. Thiem, secretary, Paper Mill Men's Club of Southern California, is also Pacific Coast manager of the Milwaukee Lace Paper Company.

Elected Rotary Chief

● O. H. Barnhill, manager of Blake, Moffitt & Towne's Tucson, Arizona, office has been elected president of the Tucson Rotary Club, according to a recent announcement. Mr. Barnhill has twice served on the club's board of directors during the ten years he has been a member.

He also was recently appointed a member of the board of trustees for Tucson School District No. 1.

Camas Men on Furloughs; Some Get Married

Many former employees of Crown Zellerbach Corporation at Camas Wash., who are now in the armed services have recently spent furloughs in Camas.

Lieut. (j. g.) F. W. Flynn and Ensign C. T. Beals, who have been taking training at Cornell University, were transferred at the end of their furloughs. Lieutenant Flynn went to Syracuse Univeristy and while there planned to visit Maurice Phelps who used to be in the lab at Camas.

Home on leave from the "Seabees" were Bill Ashe and S. H. Lawrie, carpenters' mates, first class. Ashe was formerly beater room foreman and Lawrie was a back tender. They were transferred to "Island X."

Corporal Bill Goodwin was home from Camp Davis, N. C., where he is in the coast artillery, A. A. Goodwin was a bag inspector supervisor.

Leaving rather than returning to Camas, is Mrs. Averill McCann, who has been a stenographer in the order department at Crown Zellerbach for about two years. She joins her husband in Virginia, where he is to take officer's training.

Lieut. Howard Surbeck married Lenore Hirsekorn, Crown Zellerbach employee, while on leave from the Army Air Corps. He was formerly in the store room at Camas and is now stationed at Denning, New Mexico. Mrs. Surbeck returned to her work at Camas.

Lieut. Cliff Parr, from the Hawaiian Islands, formerly a paper tester; Yoeman (second class), Tal Preuit of the "Seabees," formerly in the technical department; and R. M. Crosby, Navy pharmacists's mate (first class) and formerly in the sample department, were in Camas on short furloughs.

Sgt. Chas. W. Hanson of the Army was able to return for his sister's high school graduation and visit with his mother who came from Alaska for this event. J. R. Reilly, U. S. Coast Guard; Boatswains Mate L. Gilbert of the C.B.'s and formerly Crown Zellerbach millwright; Sgt. Chas. Bourcier of the Army Air Corps, formerly double fold machine operator; and Leonard Ritter, boatswain's mate in the Navy, were home on furloughs.

Ensign James W. Holmes and Winifred Smith were recently married. Miss Smith had been a stenographer in the Crown Zellerbach offices for five years. The Holmes will reside at 10 Catra Way, San Francisco.

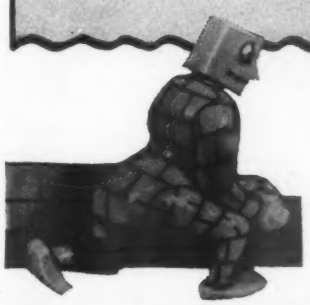
Maintenance Crew Gives Party for Petersons

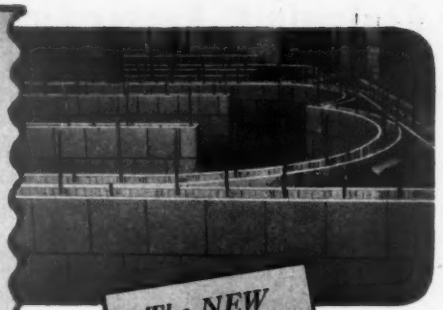
Sixty members of the maintenance crew of the Puget Sound Pulp & Timber Company honored a newlywed among them by staging a surprise party for Leo Peterson, veteran millwright, and his bride, the former Beatrice Campbell of Bellingham. The party was planned by Mr. and Mrs. Peter Anderson and Mr. and Mrs. Hjalmer Brannstrom. Mr. Oscar Brandt, pipe fitter foreman, acted as toastmaster at the party which was held at the Twin Gables Resort. After spending an evening dining and dancing, the group presented Mr. and Mrs. Peterson with a coffee table and bridge lamp for the new home.

600 In Service

The number of Fibreboard Pacific Coast employees now in the armed services totals more than 600.

NEED STORAGE TANKS FOR SLUDGES, BRINES, BLEACHING SOLUTIONS, PULPS, DUST, SALTS, etc?





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Investigate the advantages of SEMTILE tanks today!

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TEXTILE TOWER SEATTLE, WASHINGTON

1,992 Stars Shine On Crown Zellerbach Flag

A new service flag has been unfurled in the foyer of the Crown Zellerbach building in San Francisco and now proudly presents its message to all who enter. It contains 1992 stars, each representing an employee from logging camps, mills, offices or sales department, serving with the armed forces as of the first of June.

Pulp Mill Ball Team Tops City League

Under the able leadership of Ed Scribner, steam plant fireman at the Puget Sound Pulp and Timber Company, the pulp mill team is now out in front of the Bellingham, Wash., City Baseball League.

The pulpers, off to a bad start, finally reached the top of the ladder after a nine game winning streak. Competition in this hard-ball circuit is considered the fastest baseball in Whatcom County.

Pat Burns Weds

W. E. (Pat) Burns, formerly sales manager of Port Mellon Operating Company, now the Sorg Pulp Company, was married in Vancouver recently to Miss Cynthia Bull. Mr. Burns is now log buyer for Pacific Veneer, Ltd., Sapperton, B. C.

Appleton Wire Works Issues New Booklet

● An instructive and liberally illustrated booklet on the care of Fourdrinier wires, entitled "Wire Facts," was presented to many mill men on the coast by Ben E. Natwick, representative of Appleton Wire Works, Inc., on his most recent west coast tour.

The booklet carries numerous photomicrographs of wires showing abrasion, spot wear, grooving, filling up, scaling, electrolysis, corrosion and other difficulties. It shows the reasons "behind the reasons" why wires fail. Copies are available on request at Appleton Wire Works, Inc., Appleton, Wis.

BEN E. NATWICK, representative of Appleton Wire Works, Appleton, Wis., who toured the Pacific Coast mills during June and had time for a couple of days with his family in Washougal, Wash.

Benjamin C. Betner Firm Buys Brown Paper Goods Company

● Brown Paper Goods Company of California, 4949 Everett Avenue, Los Angeles, has been purchased from Charles E. Digby by Benjamin C. Betner Company of Devon, Pa., which firm has other plants in Oklahoma City, Okla.; Richmond, Va., and New Haven, Conn., and has maintained a Los Angeles sales office at 364 S. Anderson Street.

The former Brown plant will continue operations as a separate corporation, to be known as Betner Corporation of California, and will make certain additions to and modifications of products. Mr. Digby will continue as general manager until January 1, 1944, when he will retire from active business, though remaining on the board of directors and serving in an advisory capacity.

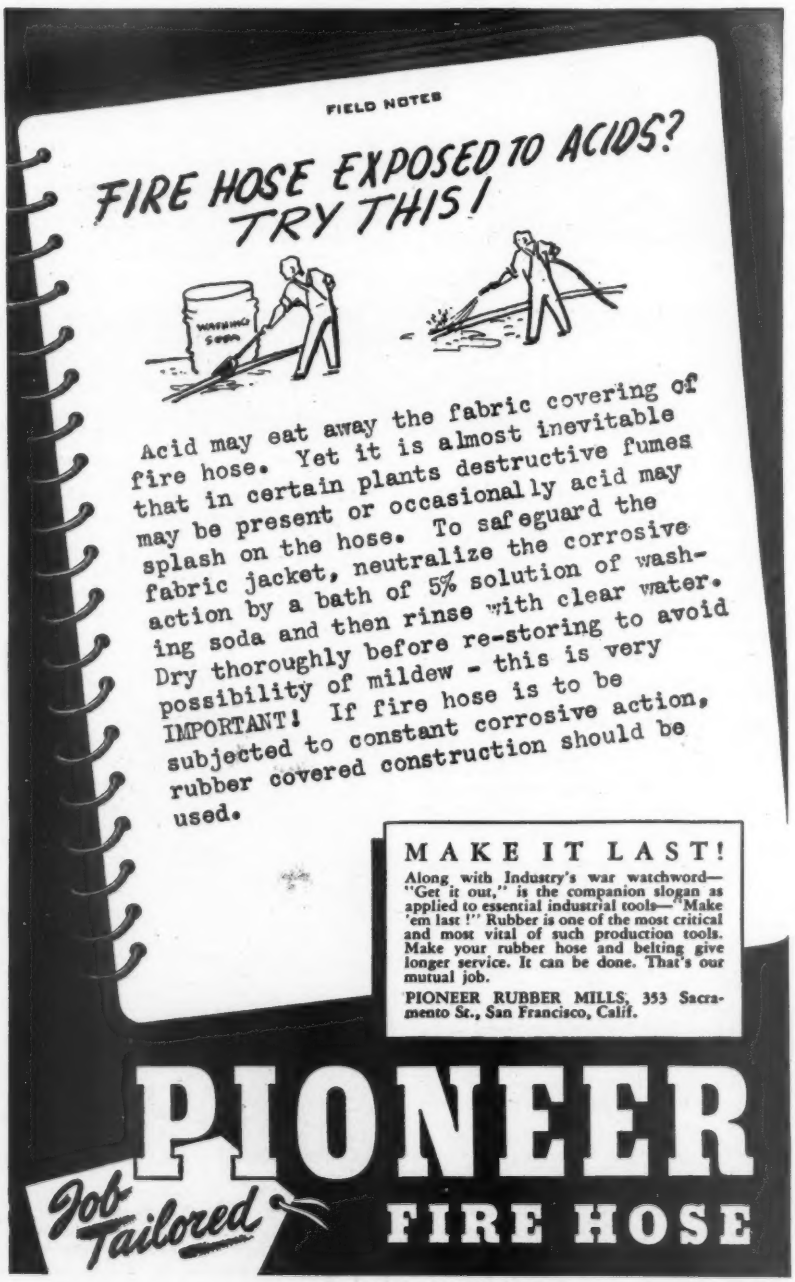
Meanwhile, Thomas Morris, who has been in charge of the Betner sales office in Los Angeles, is gradually taking over the reins and will assume full management responsibilities at the beginning of the new year. The Betner sales office will be moved to the plant.

Brown Paper Goods Company of California, was formed in 1932 by Brown Paper Goods Company of Chicago, and Mr. Digby, who was formerly with Carpenter Paper Company in Salt Lake City and Denver, was appointed manager. In 1940 he purchased the entire Los Angeles business and has since operated it as sole owner.

Several new items in the transparent bag lines, heretofore shipped only from the Devon headquarters, will be manufactured in the newly acquired plant in Los Angeles, thus the service to the Pacific Coast area will be expanded. Glassine and small specialty bags will be somewhat reduced in variety, in view of the vastly stepped up packaging of dehydrated foods in moisture-proof containers for lend lease shipment abroad.

The Brown plant has been serving the thirteen Western states through the larger wholesale paper merchants and a steadily continued increase in volume of business has been recorded over a period of years. The plant is located in the central manufacturing district and additional floor space for new equipment is now being contemplated. Branch offices and warehouse stocks have been maintained in San Francisco and Seattle for many years.

It is expected that reorganization plans will soon be completed, following which the new officers will be chosen.


FIELD NOTES
FIRE HOSE EXPOSED TO ACIDS? TRY THIS!
WASHING SODA
Acid may eat away the fabric covering of fire hose. Yet it is almost inevitable that in certain plants destructive fumes may be present or occasionally acid may splash on the hose. To safeguard the fabric jacket, neutralize the corrosive action by a bath of 5% solution of washing soda and then rinse with clear water. Dry thoroughly before re-storing to avoid possibility of mildew - this is very IMPORTANT! If fire hose is to be subjected to constant corrosive action, rubber covered construction should be used.
MAKE IT LAST!
Along with Industry's war watchword—"Get it out," is the companion slogan as applied to essential industrial tools—"Make 'em last!" Rubber is one of the most critical and most vital of such production tools. Make your rubber hose and belting give longer service. It can be done. That's our mutual job.
PIONEER RUBBER MILLS, 353 Sacramento St., San Francisco, Calif.
PIONEER
Job Tailored
FIRE HOSE

Cpl. Bob Bremner, Jr. Tells About Africa

Robert N. Bremner, former employee of the foundry department of the Electric Steel Foundry Company, Portland, and son of Bob Bremner, chief draftsman for that company, compensates for his absence by his skill as a letter wirter to relatives and friends.

Bob, Jr., has been in the army since the fall of 1941, having gone in with the Oregon National Guard at that time. He was in the first bunch of Americans to land in Northern Ireland in May of 1942, and since that time, has kept his family entertained and well informed on the many things that can happen to an American soldier on foreign soil.

Bob Bremner, Jr.'s last known sphere of action was North Africa and his address is Cpl. R. N. Bremner, Service Co., 135th Inf., A. P. D. 34, c/o Postmaster, New York City. Of North Africa, he writes:

"Writing here in a pup tent which we have equipped with an extension cord from the maintenance truck. We made a double tent and with four people sprawled around it makes things rather cramped, to say the least. We have quite a gathering in this tent. One fellow from Virginia, one from Michagan, one from S. Dakota, and myself from Oregon. About every evening I have to give these guys a lesson in the proper pronunciation of 'Oregon.' They sometimes require something more than verbal instruction.

"A lot of funny things happen in the towns. I was at a sidewalk cafe a while back and inside of ten minutes I saw a fight, had my shoes shined by an Arab boy, was entertained by an acrobat, and had a lesson in French by a waiter who thought I didn't give him a big enough tip."

Wunschels Honeymoon

J. Fred Wunschel, sales manager of Grays Harbor Pulp and Paper Company, and his bride enjoyed a few days' sightseeing in San Francisco on their honeymoon trip from Erie, Pa., to Hoquiam, Wash., where they will make their home.

British Columbia Survey Aims At Long Range Wood Use Program

Viewpoints of practical men in forest industries will be sought at series of conferences ✓ ✓ ✓ R. H. Spillsbury, B. C. Forest Service expert, urges more production of pulp and cellulose products on Vancouver Island ✓ ✓ ✓ Sees petroleum and coal derivatives gaining over wood cellulose.

BRITISH COLUMBIA pulp and paper executives welcomed the announcement recently by Premier John Hart that a new over-all survey of the forest situation in the west coast province is to be undertaken at once by the government.

This survey, it is believed, may lead to increased pulp and cellulose products in the province. A forest service official recently suggested more pulp plants on Vancouver Island in order to obtain greater wood utilization.

Primary purpose of the premier's survey is to work out a long-range program of reforestation and production so as to perpetuate British Columbia's forest wealth. Fire, logging and other agencies have resulted in recent years in a loss of timber in the coastal area in excess of natural regeneration, and revenues received from the forests by the government have in large measure been diverted to purposes other than those related to maintenance of the forest.

These are among the problems to be dealt with in the new survey. As a preliminary, a series of conferences with representatives of the forest industries will be called in an effort to obtain the viewpoint of practical men. Forestry experts will, of course, take part in the discussions.

The government is conscious of the fact that in many respects the forest industry is approaching, if it has not already reached, a transition period in which production emphasis will swing from lumber to pulp and paper and other cellulose products that will be dependent on timber largely ignored by the sawmill industry in the past — young growth, species other than Douglas fir and cedar, forests hitherto regarded as commercially inaccessible but which will play an important part in tomorrow's forest economy.

Closer Utilization Urged

● There is room for one if not two more pulp plants on Vancouver Island, according to R. H. Spillsbury, land classification expert of the British Columbia forest service.

Addressing the Vancouver, B. C., section of the Canadian Society of Forest Engineers, Mr. Spillsbury said that the present high rate of cutting in the forests of the island could not be maintained indefinitely unless closer utilization was achieved.

"If we are to maintain our present population," said Mr. Spillsbury, "we must extract a larger proportion of wages from the utilization of the remaining forest resources. This can only be accomplished by the development of secondary industries, manufacturing and processing of refined wood products.

"Pulp or even newsprint cannot be called a very refined product. Through research we must learn to extract the last ultimate dollar in wages from these forest products before putting them on the market. We must find how, economically, to utilize all the waste products accompanying processing.

"This won't be easy, for many of the cellulose derivatives that optimists claim can be manufactured can also be extracted from petroleum and coal. . . . The forest industry must awaken quickly to the fact that they are losing ground by not investigating through research possible new uses of wood products."

Western Gear Plant Police Win Honor

● A guidon symbolic of efficiency, excellent appearance and training was presented in impressive ceremonies on July 1 to the auxiliary military police of the Seattle plant of Western Gear Works.

The green and gold banner was the first to be won by plant guards in the nine far western states under the Ninth Service Command. Mrs. Anna Roosevelt Boettiger, daughter of the President, made the presentation.

Thomas J. Bannan, executive vice president and general manager of Western Gear, commended the police and employes in one of the speeches. The program was broadcast and the announcer, in describing Western Gear's achievements, stated that it was a supplier of many pulp and paper mills as well as war industries.

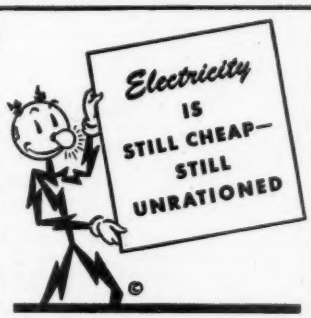
G. E. Men Promoted

Effective July 1, three General Electric men in the company's Pacific district were promoted, according to Raymond M. Alvord, commercial vice president.

G. F. "Jeff" Maughmer, former manager of the Phoenix office, became assistant to the manager of the Pacific district, with headquarters in San Francisco. Loys Griswold of the Los Angeles office took over the managership of the Phoenix branch. Arthur D. Bragg of the San Francisco office became assistant to the manager of the Los Angeles office.

PULP & PAPER MILL ENGINEER

Mech.-Struct. training & experience now in chg. maintenance work, large Wisconsin mill desires make contacts leading to West Coast connection. Available for coast interview week of August 30. Reply Box 17, Care of Pacific Pulp & Paper Industry, 71 Columbia Street, Seattle, 4, Wash.



American homes have been paying more and more for almost every necessity of life—*except* cheap electricity. Today, under war conditions, almost all of these necessities have been rationed—but there has been no rationing of power, no standing in line to buy electricity. Of course, this does not mean you should waste it.

PUGET SOUND POWER & LIGHT COMPANY

PORTLAND ♦ SAN FRANCISCO

ARMY E NAVY

this is about an E Award

For producing *chemicals for victory*, the men and women of the American Potash & Chemical Corporation have received the Army-Navy Production Award.

These *chemicals for victory* are soda ash, salt cake, borax, dehydrated borax, boric acid, potassium chloride, sulphate of potash, muriate of potash, lithium salts, bromine and bromides. Among their many war uses are metal refining, the manufacture of papers for airplanes, cartridge wrappers, shell wadding and camouflage, to increase the food supply, in instrument glasses for bombsights and range finders, in synthetic rubber and smokeless powder.

We are proud of the E Flag with which we have been honored, proud of the 373 of our number who are serving in the armed forces of the nation, proud that we are sending forth long trainloads of *chemicals for victory*.

American Potash & Chemical Corporation

609 South Grand Avenue
LOS ANGELES, CALIFORNIA

TRONA
CALIFORNIA

122 East 42nd Street
NEW YORK CITY

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Consulting Engineer
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CHICAGO, ILLINOIS
Pulp and Paper Mill
Design – Construction

GEORGE F. HARDY
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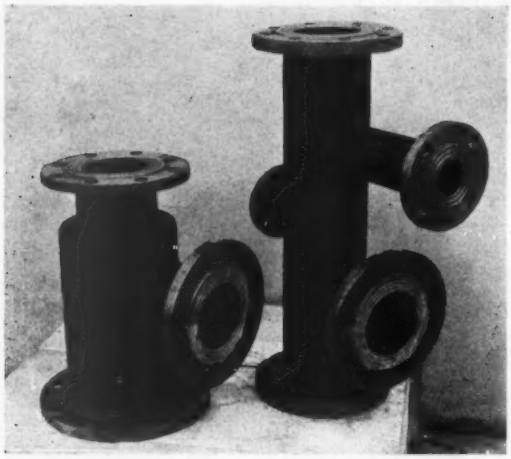

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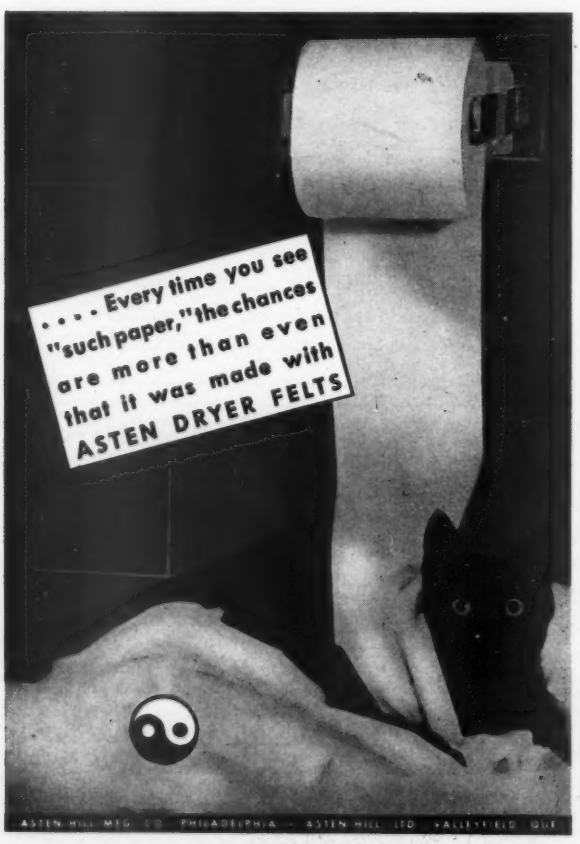

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